FOREWORD

BY DR. NORMAN E. BORLAUG

Between the two covers of this book, you will read the fascinating story of Operation Flood (The White Revolution) that has, over the past three decades, produced a constantly increasing sustainable flood of milk of improved quality and made it available to consumers in most urban areas of India. It has increased the incomes of more than eight million farmers, most of them small and humble, and in the process, indirectly contributed greatly to rural development, while, at the same time, making quality milk available at lower real prices to urban consumers in most areas of the country. Currently, more than eight million dairy farmers belonging to more than 70,000 milk producers' cooperatives in thousands of villagers, spread throughout every part of the country, bringing their milk every morning and evening to their locally-owned cooperative dairy plants where it is processed into many milk products and shipped to towns and cities throughout India. Currently, these dairy farmers earn more than 30 billion Rupees ($ 1 billion) annually, and own some of the largest and most successful businesses in India.

The production, productivity and quality of milk of this vast network of dairy cooperatives, is being improved by the professional, skilled, dedicated managers who make available forages and balanced feed rations, improvement in sanitation in milk handling, veterinary services to improve animal health and also artificial insemination with semen from genetically proven superior bulls, which will further improve herd performance and further increase dairy farmers' incomes.

Behind the scene of the fantastic success of Operation Flood, for the past forty-five years, has been the usually nearly invisible skillful guiding hand, programmed and controlled by the vision and brilliant mind and unique management skills of Dr. Verghese Kurien.

Dr. Verghese Kurien came to Anand, Gujarat, as a government research scientist, to assist the dairy cooperatives of Kaira District. He came to this assignment reluctantly, after serving and learning the management skills as an Apprentice Engineering Officer in Tata steel. He accepted the challenge and devised methods to use Foreign Food Aid to skillfully finance investments to increase milk production and stimulate rural development under the National Dairy Development Board. In the development of Operation Flood, he

encountered innumerable traps and pitfalls laid by vested interests, politicians and bureaucrats but, in each case, skillfully outmaneuvered them to achieve the White Revolution.

More recently, the Anand Pattern has been adapted to a major project in oilseeds and edible oil that now links more than 1 million members of some 5,500 oilseed growers' cooperatives in a system that handles upwards of a million tons of oilseeds. A newer activity still is a fruit and vegetable cooperative to produce and market fresh produce in New Delhi.

Anand, India, has become a center for those interested in the application of cooperation to the problems of development. Scores of countries in Asia, Africa and Latin America — inspired by Kurien's Anand Pattern — have expressed the desire to replicate this model.

The central lesson of Verghese Kurien's professional life, is that farmers who control their resources and band together in mutual self-help organizations — cooperatives — controlled from their "grass roots", can discover enormous political and entrepreneurial power. Indeed, so organized, Kurien believes that there is "virtually nothing they cannot achieve."

Dr. Kurien is a man of uncommon virtues. Simple, yet with profound insights into human nature and organization; compassionate, yet extremely demanding of his fellow man and society; and relentless in fighting for the causes in which he believes.

I consider Verghese Kurien to be one of the world's greatest Agricultural leaders of this Century. This collection of his speeches, so aptly entitled "An Unfinished Dream", can help to light the way for those who must carry on the battle to ensure greater food security, prosperity, and peace to the world. I am honored to commend this book to those future "hunger" fighters. I can think of no better source of insights and inspiration that the life and work of Verghese Kurien, who often refers to himself as "a simple milk man from Anand."

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INTRODUCTION

The name of Dr. Verghese Kurien is known millions of India's farmers whose lives he has helped enrich. It is also familiar to Indians in all walks of life who have read about his work, and to many outside of India who have an interest in development, whether by profession or avocation. The merit and magnitude of Dr. Kurien's achievements have been recognized by his own country which has awarded him a Padma Bhushan, by the many universities that have conferred on him their honorary doctorates, and by the distinguished committees that have selected him for such honours as the Magsaysay Prize, the Carnegie-Wateler World Peace Prize and the World Food Prize.

While the numbers who have heard of Dr. Kurien are large, those who have had the opportunity to hear him speak are far fewer. For those who have — whether in a conversation, a small group, or public address — it is a memorable experience. In his speeches, Dr. Kurien speaks with candor, his points crisp, his language lucid, his logic clear, and his humour — directed at himself as well as his adversaries — enriches and illuminates. Seldom speaking for more than 15 to 20 minutes, he makes his points directly and concisely. As he has said, a speech provides the opportunity for him to share, and to test, his current thoughts. Those thoughts often test the conventional wisdom as well as the beliefs of his audiences.

Dr. Kurien's career has spanned close to 50 years from the day he arrived in Anand, then a dusty town in western India, known only for its Polsons Dairy. Happenstance, fate or good luck brought him in touch with the chairman of a fledgling milk cooperative. With little to do as the officer in charge of a government creamery, Dr. Kurien began to give advice, and then help to the cooperative. When his government service came to an end, he was asked to stay on for a few weeks to help commission a new pasteurizer. The weeks turned to months, the months into years. The rest, as they say, is history.

Dr. Kurien is best known to most as India's "dudhwalla," the man who built a cooperative structure that reaches millions of small dairy farmers, linking them with millions more consumers of milk, cheese, butter, chocolates, and a host of other products. To some, he is equally well known as a fierce advocate, fighting to liberate cooperatives from archaic legislation, a man who has fought a long battle to ensure that producers have the right to control the resources they create. To a smaller number of students of development, he is known as the individual who discovered and practised "empowerment," "decentralization",

"participatory development" and "people's power" long before these terms became fashionable.

Rising beyond all these dimensions of the man, and uniting them, is Dr. Kurien the man with a vision. That vision extends well beyond milk or oilseeds, and it extends beyond cooperatives and development theory. It is the vision of a just and equitable nation, the fulfillment of India's dream and of India's promise. A member of the generation that came of age with India's Independence, Dr. Kurien shared their belief that they had a "tryst with destiny." Their dream of India was not a land in which the toys of consumer societies were readily available, but one in which each Indian, regardless of origin, regardless of place of birth, of occupation, of language, had an equal opportunity to share in the nation's blessings and to contribute to the nation's progress.

This book of Dr. Kurien's speeches, spanning nearly forty years from 1955 to 1994, is a story of the pursuit of a dream. He begins with a blueprint: sharp, clean lines defining a dairy cooperative marketing structure that will link millions of milk producers with urban consumers. He moves on to enlarge and refine, to incorporate the role of the professional, the obligation of India's elite, the nature and power of the cooperative structure. Then, with the passage of time, he responds to attacks: the assaults of bureaucrats who fear the implications of successful institutions run by producers, the forays launched by academicians, the sabotage of the vested interests and the opposition of international financial institutions and multinationals. In the last few years, he turns to the dream renewed: a dream whose importance has been rendered far greater by the turn of events in India, but a dream, too, that is relevant far beyond India's shores.

To read this book, is to travel a path with Dr. Kurien. It is a path that leads toward a clear goal, but it is a path which is overgrown in places with brambles, strewn with rocks, blocked by chasms, and which even passes through ravines infested with dacoits. But the purpose of the guide remains constant, his step vigorous, and his directions sharp. Traveling that path will enrich the reader; educating, but also inspiring.

There is something in the speeches for almost any reader. For the student or practitioner of development, Dr. Kurien's talks are a rare compendium of philosophy, goals, strategies and methods. For the general reader, Dr. Kurien's language is a delight. The reader will soon know why reporters seldom leave one of his speeches without pungent quotations to liven their articles. The

speeches are rich in their arguments, their phrasing and in anecdotes that both illustrate as well as illuminate. For the concerned citizen, the speeches rise above the din of ideology and partisan rhetoric to provide a clear, refreshing view of how India can better pursue its destiny.

The book, with speeches presented in chronological order, is divided into three sections: "A Dream;" "Defending the Dream;" and a "Dream Renewed." Each section, while joined by a theme, draws on the past and looks toward the future. The reader may find occasional repetition and can choose to either move on, or feast again on stories that gain from each retelling.

True greatness in an individual rests on a firm foundation of values, and is achieved by pursuit of a noble goal. In his address to the students and faculty at the Sixth Convocation of the Institute of Rural Management, Anand, Dr. Kurien said:

> *For success attends only those who persevere, who see their goal steadily and aim for it unswervingly and who persist with dedication and faith in the cause they are fighting for.*

This book is the story of a man who has lived by those words.

Section I: A Dream

By 1955 Dr. Kurien had spent less than a decade with the Kaira District Cooperative Milk Producers' Union. Although there had been obstacles, frustrations and occasional failures, the Union had faced and overcome these and was now firmly headed on its path to success. For Dr. Kurien, a great many lessons had been learned — some from the cooperative union's chairman, Shri Tribhuvandas Patel, some from colleagues, some from those whom AMUL consulted with and employed to build a marketing network, and some — indeed a great deal — from the farmers who were AMUL.

Out of this experience evolved a vision. Initially it was a vision of an institution — the Indian Dairy Products Marketing Board — that would build the markets for milk products that a growing Indian dairy industry would need. The first chapter of this book is the vision that Dr. Kurien first evolved, his dream of the future of Indian dairying. In it the reader will find much that began to become a reality some ten years later when the National Dairy Development Board was founded. Other elements of the dream were realized with the creation of the Gujarat Cooperative Milk Marketing Board, a federation of Gujarat's dairy cooperatives that now is India's largest food sector business. The reader will also find goals that have yet to be achieved, elements of the dream that remain elusive.

In the speeches that follow, the dream is fleshed out: the rationale for the institution's existence gains depth and breadth through Dr. Kurien's growing commitment to placing the instruments of development in the hands of the Indian farmer. The role, indeed the duty of the professional, is expanded. Gradually the individual parts are drawn together into a comprehensive dream that is truly a dream of India's future: a just nation in which rural citizens have as much access to the fruits of progress as do their urban sisters and brothers. In explaining this dream to a variety of audiences, Dr. Kurien articulates what, decades later, has become the byword of development: only when those who are directly concerned with the results of development have control over the its ends, and the means to achieve those ends, will true development occur.

The culminating speech in this section is Dr. Kurien's address to the Magsaysay Award Foundation. Here he examines the reasons for the success of India's dairy cooperative movement, identifies the areas where he and his colleagues have erred, and presents a rich description of the proper goals of development and the appropriate means to achieve those goals.

MARKETING OF MILK PRODUCTS IN INDIA

Anand, Gujarat
March, 1957

In our predominantly agricultural country, with the largest cattle population of any country in the world, one would expect a reasonably high productivity and consumption of milk and milk products. This is, however, not the case. If we examine the overall picture of production and consumption of milk and milk products, we will find that our average per capita consumption is probably the lowest in the world and, in any case, falls well below minimum nutritional standards. This is particularly surprising in a country that has a very long tradition of dairying, where the cow is held in reverence and where the value of milk and milk products is generally well appreciated.

There are several factors responsible for this state of affairs. The most important of these is the lack of encouragement and financial incentive to the farmer to produce more milk. There have been no organized methods for collection of milk, no formulas for fixation of fair milk prices to the producers, no modern dairy factories to process milk and to manufacture dairy products, and no organized methods of distribution of milk and milk products to the consuming public. Where circumstances make for a surplus production of milk, the farmer is invariably bound by the wiles of middlemen, who are generally unscrupulous businessmen, and who are wont to demand low prices and long credit. In consequence of this, the producer has no incentive to develop his industry. His attention is, therefore, directed to other and more remunerative fields of agricultural production. Dairying is at best a subsidiary occupation in which he must perforce indulge so as to obtain the bullocks needed for farm power and to produce the manure for his fields.

Unlike most other agricultural produce, milk has a very short life, in most cases extending not more than three hours. The farmer has

therefore to market his milk within three hours of production, twice each day and all the days of the year. The amount of milk that is thus allowed to go bad is enormous. In addition, in handling a product of such low keeping quality, the milk merchants inevitably operate on very large margins as the risks involved are great. The farmers who produce milk are at the mercy of milk merchants and contractors and are subject to virulent exploitation.

Another factor which has to be considered is the inadequacy of transport facilities. Long distances to the nearest consuming centres, lack of roads and means of transport and the inability of farmers to pool their milk and to organize collective methods of transport make it extremely difficult for the farmer to take his produce twice daily to the market.

Where the farmers convert their milk into products, the methods of manufacture are outmoded and wasteful; the product is non-standard and unhygienic; and the marketing is haphazard and unscientific.

All these factors have resulted, on the one hand, in high consumer prices for milk and milk products and, on the other hand, in a financial return to the milk producers which is well below their cost of production of milk. The dairy industry in the country has therefore made no progress and milk production has shown no tendency to increase. These factors have also resulted in unethical practices, chief of which is rampant adulteration. Adulteration of milk is so widely practiced that it is more the rule than the exception. Consumers have lost their faith in the purity of milk and milk products to such an extent that they have no confidence in any dairy products. As a consequence, considerable consumer resistance exists against all Indian dairy products. The usual methods of manufacture of dairy products are so unsanitary that instead of being looked upon as valuable nutritionally these products are often considered as carriers of diseases.

Several attempts have been made to improve this state of affairs, most of them started after Independence. The Key Village Schemes, the National Extension Service and the Community Development Projects

have all, in their own way, attempted to raise the standards of the Indian dairy industry. However, excepting a few isolated cases, these attempts have not so far resulted in much success. Dairying has not, by and large, made much progress.

Let us try to find the reasons for this state of affairs by looking at the following specific instances :

1. Punjab, has been one of the best milk producing and consuming areas in India. It was anticipated that with the implementation of big irrigation projects, milk production would still further increase. However, this expectation has not materialized. The relatively high prices prevailing for grains and for cash crops soon resulted in the farmers diverting their energies and their lands to these agricultural commodities and milk production had to suffer. Even marginal lands which could only be utilized for grazing were, with the advent of irrigation, used to produce food and cash crops.

2. Mehsana District of Bombay [now Gujarat] State has been an area where the intensity of milk production was very high. Due to the low income derived from milk production and due to the high prices prevailing for cattle in the Bombay city market, it has been observed that considerable numbers of the best cattle of this district are being sold by farmers to the cattle merchants of Bombay. This results in the progressive deterioration of the cattle wealth of the district. Worse, the breed also deteriorates as only the inferior animals have been left in Mehsana to multiply.

3. In Kaira District of Bombay [now Gujarat] State some organized form of milk products manufacture and marketing has been in existence over the last 50 years. Kaira District enjoys no special advantages of soil or climatic conditions. There exist no large grazing areas nor governmental cattle breeding farms. Until recent times no schemes for improvement of the cattle breed were in existence; there were no roads and no irrigation projects. But still, Kaira District is today recognized as one of the best milk pockets in

India. The reason for this is obvious: the existence over the past 50 years of some organized methods of marketing of milk and milk products.

These instances forcibly bring home the point that the best way in which one can increase milk production is by arranging to market in an organized manner whatever milk is at present produced, either as liquid milk or as milk products. Usually it will be possible to pay the farmers a higher price for their milk than they at present obtain if the processing and marketing is done in a proper manner. This will encourage the farmer to pay more attention to milk production. He will discover in dairying an excellent subsidiary occupation which obtains for him one or two rupees each day with which to meet his everyday expenses. Where he kept one milch animal he will now keep two. He will become more receptive to modern ideas of better breeding, feeding and management of cattle. A revolution in the Indian dairy industry will then have begun. A solution to the problem of underemployment of our farmers would have been found.

Dairy Projects under the Second Five Year Plan

Under the Second Five Year Plan it is proposed to set up several liquid milk processing and milk product manufacturing factories. A variety of dairy products of considerable financial value can be expected to be produced from these factories by the end of Second Plan period. Before the flow of milk products begins, it will be necessary to make some arrangements for their marketing. Here exists the opportunity to create a marketing organization on an all-India basis, the existence of which is a vital necessity to the success of the proposed dairy projects and which can serve as an instrument of great advantage to the dairy industry. The great efforts now being made under the Second Five-Year Plan in the fields of animal husbandry, veterinary science, cattle breeding and in establishing several dairy plants require and demand the establishment of a marketing organization to efficiently and cheaply market the production of these plants to consumers throughout the country. The chain of the dairy industry will not be complete without providing the final link of marketing. The marketing of liquid milk will necessarily be confined to the

immediate surroundings of a liquid milk plant and therefore can be considered as an operation that legitimately falls within the scope of activities of the processing plant itself. But the marketing of dairy products will have to be done on an all-India basis. With the existence of several milk product manufacturing plants, and in the absence of any central marketing organization, there is bound to develop a scramble for markets, price cutting and extravagant advertisement. Each plant will be required to establish its own channels of marketing, which is bound to prove expensive. In order to meet all these expenses and to survive the competition, the various dairy plants will have to lower the standards of their products and it will not be surprising if many of them turn to adulteration and other unethical practices in order to withstand the competition. The new dairy products factory of the Kaira District Cooperative Milk Producers' Union, established towards the end of 1955 at Anand -- with all the advantages it possessed as the first of the government-assisted dairy product factories -- still had to face enormous marketing problems which, during its first year of existence, well nigh threatened to engulf it. Every succeeding plant that is established will naturally have to face increasing difficulties in marketing its products. Therefore, the time has come when it is necessary to give considerable thought to this crucial aspect of implementing the nation's dairy development programme. The success of these new dairy products factories will ultimately depend on the marketing facilities that are available to them. It therefore appears logical to seriously consider the early establishment of an Indian Dairy Products Marketing Board.

What would be the function of such a Marketing Board?

1. To assume responsibility for marketing the entire production of all the approved dairy product factories in India.

2. To pay for these dairy products on the basis of quality as determined by grading.

3. To arrange for the storage, transport, distribution and marketing of these dairy products throughout India, probably through common brand names.

4. To channelize, through this Board, the imports of foreign dairy products into India.

5. To pool the supply of the various types of dairy products and to fix the purchase and selling price of dairy products.

6. To regulate the production of different types of dairy products according to the market needs.

7. To enforce quality standards.

8. To carry out propaganda for increased consumption of milk and milk products.

Such a Board can also perform the following additional functions:

1. To finance research.

2. To assist in the planning and execution of new dairy projects.

3. To arrange for the import of dairy machinery and to maintain servicing and spare parts facilities to all its component dairy factories.

4. To initiate the progressive manufacture of dairy machinery in India.

5. To maintain close liaison between the industry and the National Dairy Research Institute.

6. To generally protect the legitimate interests of the dairy industry.

7. To arrange for technical training in the field of dairying.

The proposed Marketing Board thus can be seen to have a wide field of activities in which it can play an extremely useful role. But its main function would remain the distribution and marketing of dairy products. Let us now discuss this aspect in greater detail.

Composition of the Indian Dairy Products Marketing Board

The Indian Dairy Products Marketing Board should naturally have as its members representatives of the various dairy products manufacturing factories, of government and consumers. However as most of these dairy products factories are proposed to be operated by various state governments, their representatives are also likely to be drawn from amongst the Milk Commissioners or Dairy Development Officers of the state governments. It is also likely that there would be some cooperative dairy products plants. One or two privately-owned dairy factories may also like to fit into such a marketing organization and these factories can provide the non-official representation. Consumer representatives should be so selected as to bring to the Board persons of recognized business and commercial knowledge. The Government of India should also be represented on the Board, preferably by the Dairy Development Advisor and the Agricultural Marketing Advisor. It also is worth considering the inclusion of a representative of the wholesale trade. However, to facilitate smooth working, care should be taken to see that the Board is composed of a compact, well-knit team of members. It is therefore visualized that the Board would consist of not more than 10 members, one of whom would be the Chairman. The chief executive officer of the Board would be designated as General Manager and would, in addition, serve as Member-Secretary of the Board. The various dairy products factories would not be compelled to market their products through the Board, but it should be easily possible for the Board to demonstrate the advantages of marketing dairy products through its channels. Economic self-interest would persuade the various dairy products factories to utilize the facilities of the Board for marketing. At present there is only one cooperative dairy products factory along with one or two private butter manufacturing plants. The first step, and perhaps the most important, would be to

persuade these key institutions to commit their production to the Board for marketing. This should be possible if negotiations were conducted with these dairy factories and assurances given as regards the efficiency with which the Board could distribute their products. It would be advisable to utilize the marketing channels of these dairies during the initial stages and, perhaps, to acquire and use their well-established trade names.

It is assumed that the Government of India would find it possible to give the Marketing Board the sole right of importing dairy products into India. If this were not possible, it is feared that the Marketing Board would find it extremely difficult to set itself up in business. One of the first things to be investigated, therefore, is the possibility of obtaining such a monopoly.

How is the Indian Dairy Products Marketing Board to be financed?

The value of imported dairy products would presently amount to seventy million rupees. In addition, about ten million rupees worth of Indian-made dairy products should also be available for distribution even during the initial period. Most importing houses and sole distributors operate on a minimum of 3percent as commission. In the Board's case, this commission would amount to Rs. 2.4 million, which should make it possible for the Board to meet its entire operational expenses and to gradually build up sufficient working capital and reserves. However, the Board should have adequate working capital to start its operation. It is thought that a minimum of ten million rupees would be required for this purpose. It would therefore be necessary for the Board to obtain this amount as a loan from the Government of India.

It is suggested that the profits of the Board be distributed as follows :

20percent	to its Reserve Fund.
10percent	to a Research Fund.
10percent	To a Price Fluctuation Fund.
10percent	To a Staff Bonus Fund.

50percent As Bonus to the affiliated dairies in proportion to the value of their goods marketed through the Board.

What such a distribution of profits means is that the Marketing Board would really be operating as a cooperative federation of dairy factories. There are many advantages to be gained in setting up the Board as a marketing cooperative federation. The chief of these is the exemption from taxation on its profits of operation and the fact that establishment of such a Board would be in consonance with the declared policies of the Government of India. If, on detailed examination, such a pattern is found desirable, government can maintain its influence by contributing 51percent of the Board's share capital while inviting the affiliated dairy factories to contribute the remaining 49percent. It is submitted that the establishment of the Indian Dairy Products Marketing Board as a cooperative organization is well worth consideration.

It is anticipated that the turnover of the Indian Dairy Products Marketing Board would be about 80 million rupees during the initial period. To market consumer commodities of this value on an all-India basis is a task of no mean magnitude and would require a fairly large organization in order to adequately cover the entire country. We shall now consider in some detail the organizational details of such a Marketing Board.

DISTRIBUTION

Present methods -- We do not propose to comment on the question of fluid milk distribution, although the Indian Dairy Products Marketing Board would ultimately be concerned with this matter. It is presumed that schemes, similar to the Bombay Milk Scheme, which figure prominently in the Second Five Year Plan, will be implemented in various parts of the country and no doubt the experience gained in Bombay will serve us in good stead in setting up efficient nuclei for the collection and distribution of milk.

What does concern us, however, is the question of distribution of milk products as, with the increase in milk product factories, it follows that

there will be considerable quantities of milk which will be directed towards the manufacture of a wide range of milk products.

There is no organization at the present moment which effectively ensures the even flow of milk and milk products throughout the country. What exist are organizations that direct their efforts to restricted areas, generally on a zonal basis. The establishment of a Dairy Products Marketing Board will ensure universal distribution on a national basis.

The marketing systems presently in operation can broadly be divided to cover imported products and those manufactured indigenously.

Imported products -- As far as imported products are concerned, the methods adopted follow the same pattern as those for the majority of consumer products. Products are imported either by sole distributors who represent various overseas organizations, or by import quota holders who have been given quotas on the basis of their past imports during a prescribed period. In the first category are included commercial houses which market their merchandise through a closely woven system of wholesalers.

At this stage it is necessary to comment on the retail structure in this country, as it has little affinity to any such systems in operation in other countries where retail merchandising has reached very specialized levels. In India a manufacturer or distributor, whatever the commodity, must rely almost entirely on the wholesaler for his effective turnover. Even the larger combines, which have vast marketing organizations throughout the country, are often compelled to see that the wholesaler is satisfied in some way or other. The wholesaler has therefore, over a period of time, become an integral part of the operations of a merchandising firm and has thereby evolved for himself a standing in the mercantile community which is almost unshakable. The influence which the wholesaler wields over the retail trade is enormous and any organization that endeavours to bypass him must be prepared to face embarrassing situations which he is likely to create if overlooked.

One of the important reasons for the creation, the existence and the continued power of the wholesaler would probably go back to the time when British merchandising was introduced into the country through the East India Company. The pioneers of British marketing in this country were completely ignorant of such important features as customs, cultures, a knowledge of potential markets, etc., and had to rely entirely on a class of individuals who were created primarily to take over this responsibility. In return for this service they were adequately compensated and were able in the course of time to enjoy a period of uninterrupted monopoly.

This is a legacy which we have to accept at the present time; but in all fairness to the wholesalers, it must be borne in mind that they were sufficiently enterprising to accept exceptional risks and to explore newer and newer avenues for the disposal of their merchandise. They were able to build for themselves a foundation of financial stability as well as access to retailers throughout the length and breadth of the country. And they did this in a most economical manner, enabling them to work on small margins and produce substantial turnovers. The wholesalers were able, in an economy that was more or less stagnant, to counteract such obstacles as the lack of transport. They employed every available mode for the transport of their merchandise, from camel backs to dinghies, catamarans and houseboats wherever rivers were navigable and, finally, to modern trucks in areas that had developed a network of roads.

As a result of this close relationship with the retail trade, the wholesaler is today regarded by the retailer as an indispensable adjunct to his business. He has come to look upon him as a benefactor who has been responsible for whatever success he has been able to achieve. He seeks and receives guidance whenever necessary and above all is able to conduct his business with a minimum of financial investment owing to the almost unlimited credit facilities which he is allowed by the wholesaler. No marketing concern can afford to lock up substantial sums for indefinite intervals by offering credit and this is a very important factor in determining the reason for the wholesaler's importance.

The two major wholesale markets in India are the two main ports of entry, namely Bombay and Calcutta. Practically all the imported merchandise that comes into the country moves out from these two towns. Along with imports also moves material of indigenous manufacture which the wholesaler has been cajoled into accepting with the offer of special terms; or as a substitute for those articles which cannot be imported now, but the use of which has become an accepted necessity.

Another interesting and significant relationship between the wholesaler and his principals is the guidance he gives by way of estimating market potential as well alerting them to the spasmodic changes in the market which he is able to anticipate through his close contact with the retail trade and, through them, with the consumer. Being able to predict various setbacks or conditions of increased demand, he can advise the manufacturer as to production targets. He also suggests improvements and modifications in the make-up, quality, and design of products -- features which a manufacturer is often unable to determine or gauge himself.

A few concerns appoint sole distributors. These are assigned on either a national or zonal basis, depending on the facilities that they have at their disposal. There are, among these, a few distributors who operate on a nation-wide basis and who have experience of distributing dairy products. It would definitely be advantageous to utilize their services.

In view of the stronghold which the wholesaler has built for himself, and the ready-made channels of distribution which he has carved in the country, a central marketing organization would be well-advised to take advantage of the wholesale system to the extent of its usefulness. Deep coverage can be obtained, as well as economy gained, by avoiding the setting up of a duplicate and intricate network to feed the entire country.

B. These arguments conclusively demonstrate the importance of the wholesaler and it is, therefore, worth considering their use.

One of the greatest problems faced by producers and manufacturers has been created by the existence of certain malpractices. These have become deep-seated as there has never been any organized attempt to eradicate them. The vastness of the country provides an opportunity for exploitation by unscrupulous middlemen. The lack of vigilant personnel has not helped this state of affairs.

The rampant adulteration that has been practiced for years together has not merely tended to bring down standards of quality, but has also created in the minds of the consuming public suspicion and grave misgivings about any milk product which they purchase.

An Indian Dairy Products Marketing Board could, in collaboration with state governments and municipal bodies, enforce legislation and introduce measures to counteract these evils. By taking over marketing for the major producers, and through intensified propaganda, it should be possible to eradicate those who have been responsible for these unethical practices. While some progress has been achieved in the field of grading of butter and *ghee* by the Government of India's *Agmark* scheme, that scheme has not been able, for various reasons, to eliminate adulteration. There is no doubt whatsoever that the creation of an Indian Dairy Products Marketing Board, and close coordination between the Board and the *Agmark* scheme, would go a long way toward eradicating the evil practice of adulteration in dairy products.

C. India has contrasting seasonal variations which have a bearing on the production of milk and milk products. As a result, there are periods of acute shortage which are responsible for fluctuation in prices. The consumer has become accustomed to the idea of price changes and has reached a state of mind where he accepts this situation. With central coordination, it should be possible to reduce the frequency of price changes and to introduce a system whereby unscrupulous operators are unable to take unfair advantage of a short supply position.

D. Except in very few cases, producers and dairy product manufacturers do not maintain quality control. Random manufacture,

without any attempt to maintain a minimum quality, has resulted in a number of brands that fall well short of legal limits. In fact, the majority of these products are injurious to health. Unfortunately, their consumption is substantial without the consumer obtaining any benefits of dietary value.

Apathy, which is evident in the production of such material, makes for a high frequency of deterioration, which is to be expected in the absence of cold storage facilities and refrigerated transport.

E. It would be necessary, therefore, while maintaining a strict quality control, for a Dairy Products Marketing Board to establish depots with refrigeration facilities at centrally selected points. Larger towns have certain arrangements for refrigeration, but here again there is no standardization of rates and a dealer is very often required to pay amounts that are out of proportion to his margin of profit. The setting up of cold storage units would have to closely parallel the administrative structure that has been suggested below. With respect to the number of cold storage facilities required and their location, the needs of each zone will have to be considered separately.

Cold storage would have to extend not merely to static depots, but also to forms of transport, involving the movement of milk products of a perishable nature from the several depots to outlying areas.

F. Once the question of transport and cold storage facilities has been settled, today's problem of moving dairy products from surplus areas to deficit areas can be easily overcome. At the moment this is a bottleneck which has discouraged the expansion and modernization of many dairy units. A producer has little or no incentive to build up the industry and make further investments owing to the limitations of his market.

G. The question of imports is also a problem which has to receive the priority consideration of an Indian Dairy Products Marketing Board. In recent years, government has substantially reduced imports by keeping down quotas. Even so, a certain amount of control is necessary.

The following figures are a comparative statement of the imports during specified years which, as can be seen, are quite substantial. Licenses are issued on the basis of previous years' imports to anyone who has a claim. In consequence, the number of importers is large and the brands which come in are several.

PRODUCT	1954/1955 Qty. (MT)	1954/1955 Value (Rs)	1955/1956 Qty. (MT)	1955/1956 Value (Rs)
Condensed and Preserved Milk (including cream)				
Evaporated or Condensed				
a) Whole (including cream)	5,391	10,742,615	4,167	9,211,222
b) Skimmed or separated	589	760,720	301	403,859
Dried or Powder				
a) Whole	1,106	4,114,585	5,283	10,097,258
b) Skimmed	24,831	38,810,138	25,484	39,123,347
TOTAL	31,917	54,428,058	35,234	58,835,686
Infant Foods	2,411	12,522,873	2,7373	16,398,578
Cheese*	426	1,967,796	610	2,921,575
Butter*	556	3,803,576	580	3,987,631
Ghee	5	25,450	2,022	15,850,586
Misc. (By land)		2,265		14,009

* *Includes tinned*

It is not suggested that the imports of milk products be completely banned as these will have to continue until the country is self-sufficient and able to produce what is actually required as well as to earmark reasonable quantities for export. It is suggested, however, that all imports be centralized through the Dairy Products Marketing Board which would determine the country's actual needs as well as the type of milk products that are necessary.

It should be possible to arrange for the import of dairy products in bulk, re-pack and then market them under the Marketing Board's own brand. It should also be feasible to arrange for the imports to arrive in

India during the beginning of summer so as to help meet the seasonal shortage of dairy product production within the country.

The Indian Dairy Products Marketing Board and its structure

In any effort of the type proposed, there must be a certain amount of overall control and we give below an indication of the basic structure of a Marketing Board which could efficiently control the distribution of milk products on a national basis.

It has been found practical to divide the country into five zones, each zone having a Marketing Officer. The following areas represent a judicious division for marketing purposes.

ZONE	HEADQUARTER TOWN	AREA COVERED
NORTH	*New Delhi*	New Delhi
		Punjab
		Himachal Pradesh
		Rajasthan
		Uttar Pradesh (Western)
SOUTH	*Madras*	Madras [now Tamil Nadu]
		Mysore [Now Karnataka]
		Kerala
EAST	*Calcutta*	West Bengal
		Assam [Now Northeastern States]
		Bihar
		Orissa
		Uttar Pradesh (Eastern)
WEST	*Bombay*	Bombay (Now Maharashtra and Gujarat)
CENTRAL	*Bhopal*	Madhya Pradesh

The Marketing Officer for each zone would be responsible directly to a Central Marketing Officer, who would be based at the Marketing Board headquarters. Each Marketing Officer would have to be given certain discretionary powers. The scope of these powers would be directly related to his functions and should extend to the limits of the autonomy which would be allowed to the administration of each zone. It would be unwise to expect constant reference to a headquarters for matters which require "on-the-spot" decision. Monthly meetings of all zonal officers would be sufficient for conveying directives with regard to policy as well as to provide the opportunity for expression of views and to obtain clarification

on matters of a conflicting nature. While the strength of each Marketing Officer's set-up will depend on the needs of each zone, the following pattern should basically provide a nucleus on which the Board could elaborate as experience required.

1. Marketing Officer

AGE : 35-40 years.

QUALIFICATIONS : University first class degree, preferably in commerce. Knowledge of dairying desirable.

EXPERIENCE : Administrative experience in organizing and hand-ling reasonably large staff; field experience of at least 10 years and a working knowledge of merchandising, preferably in a consumer commodity; basic knowledge of the principles of finance; some experience of sales promotion; a working knowledge of Hindi and one or more regional languages.

SALARY : Rs. 800 - 1,250, with efficiency bar ranging to a maximum of Rs. 1,500 plus Sumptuary Allowance of Rs. 150/- plus conveyance. Travel Allowance applicable outside base town at Rs. 12/- per day. First class fare allowed on tour.

FUNCTIONS : The Marketing Officer would be vested with the overall control of the affairs of each zone and would report directly to the Central Marketing Officer at headquarters. His most important function would be to organize his establishment so as to make it autonomous and efficient in handling the problems of distribution in his area. He would be concerned with implementing Board policy and recommending to the Board the appointment of distributors, etc. in accordance with the needs of his territory. He would have to submit periodic reports to the Board suggesting any measures which may add to the efficiency of his establishment. All problems which crop up in day-to-day working of his distributing unit would have to be decided by him, consistent with Board policy.

As stated above, he would be given certain discretionary power which would be outlined at the commencement of his term of office. Any recruitment by way of additional staff would be recommended by him for disposal by the Board, but allowances would be made up to a certain maximum for enlistment of subordinate and menial staff, which would conform to a budget. This budget, which would coincide with the Government financial year, would also provide for such emergency expenditure as could be anticipated to require spot disbursements. The delegation of individual responsibility to members of his establishment would be within his province.

2. Assistant Marketing Officer

AGE : 27 - 35 years.

QUALIFICATIONS : University degree, preferably in commerce. Know-ledge of dairying desirable.

EXPERIENCE : Field experience in a marketing organization, preferably handling consumer products; knowledge of general administration, sales promotion and finance advantageous. Ability to handle field staff; working knowledge of wholesale and retail operation; an accepted standing with the trade. Working knowledge of Hindi and one or more regional languages.

SALARY : Rs. 350 - 750 - with efficiency bar up to Rs. 1,000/-; sumptuary allowance, Rs. 100/-; Rs. 25/- conveyance allowance; Rs. 8/- per day travel allowance and first class fare.

3. Office Superintendent

SALARY : Rs. 300 - 500/-. efficiency bar up to Rs. 700/-

4. Accounts Officer

SALARY : Rs. 500- 700. efficiency bar up to Rs. 1,000/-

5. Statistical Officer

SALARY : Rs. 250 - 400.

6. Field Manager

AGE : 30 - 40 years.

QUALIFICATION : Preferably a graduate. Minimum of 10 years' experience in the field in a similar capacity with a recognized merchandising organization. Intimate working knowledge of the wholesale and retail trade and accepted standing by the trade. Conversant with practical marketing principles. Ability to control and supervise field staff. Sound knowledge of Hindi and one or more regional languages.

SALARY : Rs. 500 - 700; conveyance allowance of Rs 50/- per month; travel allowance of Rs. 10/- per day; first class fare.

FUNCTIONS : As the designation suggests, this individual would have overall control over field staff and it would be incumbent on him to prepare itineraries for salesmen and visit various outposts at regular intervals. He would also be concerned with the preparation of itineraries for the supervisory staff. He would have to set up machinery for obtaining regular reports from sales staff and passing on to the Statistical Officer sales figures noted down from salesmen's reports. He would have to be on tour for a minimum period of two weeks each month and visit each salesman's area of operation and dealers in that area. He would be directly responsible to his Marketing Officer who would decide any issues of a controversial nature.

7. Supervisor

AGE : 30 - 40 YEARS.

QUALIFICATIONS : Preferably a graduate. Minimum of 10 years' experience in the field in a similar capacity with a recognized merchandising organization. Intimate working knowledge of wholesale and retail trade and accepted standing with the trade. Conversant with practical marketing principles. Ability to control and supervise field staff. Sound knowledge of Hindi and one or more regional languages.

SALARY : Rs. 300 - 500; Rs. 8/- per day travel allowance; second class fare on tour.

FUNCTIONS : A supervisor would function on much the same lines as a Field Manager, excepting that he would be without any administrative responsibility. His function would be merely in the field and he would be intended to supervise the proper and satisfactory workings of sales staff. He would accompany salesmen in rotation on each phase of his itinerary and would take on-the-spot decisions on such matters as replacement of damaged goods. He would also ensure the proper placement of any display material which had been supplied by the Dairy Products Marketing Board and would iron out problems which might arise between the salesmen and the trade in the course of the conduct of their normal business.

8. Field Staff

Requirements :
(1) 8 salesmen
(2) 8 assistants
(3) 8 porters

1. Salesmen

AGE : 25-35 years, physically sound, presentable personality.

QUALIFICATIONS : Working knowledge of Hindi and one or more regional languages. Similar position in well known merchandising organization. Intimate connection with the wholesale and retail trade.

SALARY : Rs. 150 - 300; Rs. 8/- per day travel allowance; second class fare on tour.

FUNCTIONS : Each salesman would be given a certain area to cover and it would be fundamental to the success of his operation that he obtain, on taking over his office, a detailed list of the market potential in his area. It would be his first duty to arrange to call on each stockist and make himself known. He would be expected to sincerely follow the itineraries sent out to him by his Field Manager. This itinerary would provide for him to call on his major stockists at frequencies of not less than twice a month. He would have to call on a minimum of 30 stockists per day and would maintain a record of his movements on a form called a Salesman's Daily Report. In this form he would note down all the particulars called for and would endeavour to attain a maximum percentage of fruitful calls. He would also ensure the proper display of all dealer aids which are supplied to him and see that there was a regular flow of products from the various depots. He would be expected to advise his Headquarters of any anticipated shortages in stock at his feeding depot and to make sure that there was an adequate coverage to meet daily needs over a reasonable period to be indicated by his office. As all deliveries would be on a cash-on-delivery basis, he would be responsible for spot collections and would render accounts at the end of each day's operation on a special form.

2. Assistants

QUALIFICATIONS : Matriculates; driving licenses authorizing the operation of a delivery van or automobile and knowledge of cycling.

SALARY : Rs. 110 - 150.

3. Porters

SALARY : Rs. 60 - 100.

The staffing described would only form an organizational nucleus. These recommendations do not take into account such necessary staff as ledger clerks, bill clerks, cashiers, cold-store superintendents and coolies. The strength of the staff would depend entirely on the extent of operation in the area concerned.

The zonal division would, by itself, be unwieldy for a satisfactory operation and we therefore suggest the establishment of sub-zonal divisions which would be as follows :

Zone	**Sub-Zonal Areas**	**Sub-Zonal Headquarters**
NORTH	*Delhi-Punjab*	New Delhi
	Himachal Pradesh	Simla
	Uttar Pradesh (Western)	Lucknow
	Rajasthan	Jaipur
SOUTH	*Madras (now Tamil Nadu)*	Madras
	Andhra Pradesh	Hyderabad
	Mysore (now Karnataka)	Bangalore
	Kerala	Cochin
EAST	*West Bengal*	Calcutta
	Assam (now Northeast states)	Shillong
	Bihar	Jamshedpur
	Orissa	Bhubaneswar
	Uttar Pradesh (Eastern)	Allahabad
WEST	*Greater Bombay*	Bombay
	Maharashtra	Poona
	Eastern Bombay (now Gujarat)	Nasik
CENTRAL	*Madhya Pradesh*	Raipur-Bilaspur Indore and Jabalpur

The distance from each Zonal Headquarters town to each sub-zonal Headquarters town is such that they can be readily covered without much difficulty by field staff. The accompanying statistics (Appendix B) give an indication of the population, density per square mile and the literacy of the

areas which fall within the jurisdiction of each zone and sub-zone so that we can have a visual picture of not only the challenging task ahead of the Dairy Products Marketing Board but also of the justification for the divisions as outlined into various sectors. It is important, therefore, that this nucleus form a minimum for purposes of a working organization as it is only by such specialization that a Dairy Products Marketing Board would be able to achieve the object of deep penetration.

To meet this objective we should formulate a plan by which, over a certain prescribed period of time, the Board would be able to cover a reasonable section of the country. It is anticipated that in accord with the second Five-Year Plan, and the plans that will follow at its conclusion, the general standard of living as well as the per capita income will substantially increase. It follows that along with this increase there will also be tremendous developments in such matters as transport, roads and the emergence of new townships. This would therefore mean an increase in the numbers of potential consumers. It is thus of paramount importance that the proposed Dairy Products Marketing Board work to a certain plan, the basis of which is outlined below.

There are, unfortunately, no available statistics for production of milk products; nor are we able to determine the actual consumption. We do know that the average per capita consumption is probably the lowest in the world and that it falls well below minimum nutritional standards. Any attempt to merchandise on a systematic basis must have alongside it a concerted effort by way of promotional work in order to introduce new consumers as well as to ensure that the existing rate of consumption increases substantially. Later in this note we outline our proposals as to how this can be achieved.

The only scientific basis for planning the extent of marketing operations is to be found in statistics compiled in the recent census. These figures give a fair idea of the market potential in this country. It would, however, be impossible, and in fact unwise, to consider the immediate setting up of machinery to capture this anticipated volume of

business. This should, however, be the ultimate goal which an organization would endeavour to achieve over a specified period of time.

To our knowledge, there are very few organizations that have been able to build themselves into an intricate network with extensions all over the country and which are able to market their merchandise with the maximum possible penetration. These organizations have taken several years to reach this level of efficiency, and even at the present time are continually expanding to be able to cater to larger and wider markets. An Indian Dairy Products Marketing Board would not be able to take over these concerns and would therefore need to emulate them to the best of its ability. It is therefore suggested that the immediate establishment should be a nucleus around which would gradually develop a larger organization; within a period of three or so years it should be in a position to cover a reasonable proportion of the country's potential.

The most effective method of determining marketing targets is by use of population data. It would be practicable to categorize towns on the basis of population into various groups and we feel that, if judiciously built-up, three years would be sufficient to cover towns which would fall into groups A, B, C and D*. These would represent, respectively, towns with populations from over 500,000 down to those of 100,000. It should be the object of the Marketing Board to fully exploit this area in its initial stages of expansion and, as has been pointed out above, if this is done systematically we should expect to attain full coverage of these areas within that time.

In fixing only these four groups of towns as the Marketing Board's initial target, we have to take into account such factors as location, transport facilities, proximity to railway termini, importance to the national economy and such other factors as would bring down the initial cost of an organization to the bare minimum. It must also be remembered that owing to the under-development of this particular industry, it may not be possible to obtain the services of experienced personnel. This is an

* CLASSIFICATION OF TOWNS

Town	*Population*
A	Over 500,000
B	300,000 - 500,000
C	200,000 - 300,000
D	100,000 - 200,000

important factor as initial recruits would have to be of such a calibre as to be able to wield, in time to come, the responsibilities of a highly specialized and complicated organizational machinery.

The proposed Board's method of operation should allow for a certain amount of preliminary spade work and exploration of what we can classify as second strata towns viz. E, F and G, which would embrace populations of up to 100,000. It would be a simple matter for the field staff to pay cursory visits to these areas and lay the foundation for an intensified campaign after the end of the first three-year period. By that time conditions should have been reached whereby the Board would have penetrated into seven classes of cities and towns. Accordingly, at the end of the second Five-Year Plan, the Board would have geared itself to a pitch of efficiency which would enable it to develop alongside the progressive targets of subsequent Five-Year Plans.

Sales Promotion

The object of organized sales promotion would be to increase the per capita consumption of milk and milk products to a reasonable level as well as to spread the doctrine of the advantages and benefits of milk. With the passage of time, there has been a downward trend in milk and milk product consumption and it would be a prime function of the Dairy Products Marketing Board to reintroduce milk and milk products into the national diet. The methods used would follow roughly on the same lines as those used by the Indian Tea Board which has awakened to the need of popularizing the consumption of tea.

The anticipated expenditure for an exhaustive promotional campaign would appear staggering, but this is to be accepted as an important feature of the proposed Marketing Board's activities if that board is to function effectively. While detailed programmes and recommendations could only be made after zonal needs are determined,

the broad principles which would have to be followed can be briefly enunciated as follows :

A. TO INCREASE CONSUMPTION OF MILK

(a) Developed areas. A to D Towns (population of 100,000 and above.

(b) Undeveloped areas. Mostly rural.

B. MILK PRODUCTS PROMOTION

(a) Branded Products

(b) Unbranded Products - bulk users, etc.

A. (a) *Developed areas :*

MEDIA: i) Newspaper and magazine

ii) Cinema slides.

iii) Outdoor hoardings.

iv) Commercial broadcasting.

v) Exhibitions.

Note: The basis of the entire effort should be on the theme of "Drink More Milk," stressing its nutritional value.

(b) *Undeveloped areas :*

MEDIA: i) Broadcasting units and demonstrations.

ii) Village panchayats.

iii) Community projects.

iv) Posters and visual publicity.

B. (a) *Branded Products* :

MEDIA: i) Newspapers and magazines.

ii) Cinema slides.

iii) Free samples and house-to-house promotion.

iv) Outdoor hoardings

v) Stimulation by competitions, exhibitions, demonstrations, etc.

(b) *Unbranded Products :*

Direct approach and demonstrations to bulk users. This would include institutions, industrial centres, hospitals, etc.

It would be desirable for a Dairy Products Marketing Board to appoint a firm of advertising consultants to advise on advertising, sales promotion and publicity. The appointment of a firm as advertising consultants would not put the Board to extra expenditure as the fees of such firms are met by the commissions payable to them by the various advertising media utilized. It would be a definite advantage to appoint as advertising consultants a firm with experience in advertising dairy products and in introducing new brand names.

SUMMARY OF ZONAL BREAKDOWN

ZONES	HEADQUARTERS	AREA COVERED
NORTH	*New Delhi*	Delhi Punjab Himachal Pradesh Western Uttar Pradesh Rajasthan

ZONES	HEADQUARTERS	AREA COVERED
SOUTH	*Madras*	Madras (now Tamil Nadu) Andhra Pradesh Mysore (now Karnataka) Kerala
EAST	*Calcutta*	West Bengal Assam (now Northeastern states) Orissa Bihar
WEST	*Bombay*	Bombay (now Maharashtra and Gujarat)
CENTRAL	*Bhopal*	Madhya Pradesh

SUB-ZONAL DIVISIONS

Northern Zone

SUB-ZONAL LOCATIONS (Area)	HEADQUARTERS	DISTANCE FROM DELHI (Rail Distance Miles)
1. Delhi	*New Delhi*	---
2. Punjab and Himachal	*Ambala*	124
3. Uttar Pradesh (West)	*Lucknow*	304
4. Rajasthan	*Jaipur*	181

Southern Zone

SUB-ZONAL LOCATIONS (Area)	HEADQUARTERS	DISTANCE FROM MADRAS (Rail Distance Miles)
1. Madras	*Madras*	---
2. Andhra Pradesh	*Hyderabad*	491
3. Mysore	*Bangalore*	222
4. Kerala	*Cochin*	434

Eastern Zone

SUB-ZONAL LOCATIONS (Area)	HEADQUARTERS	DISTANCE FROM CALCUTTA (Rail Distance Miles)
1. West Bengal	*Calcutta-Howrah*	---
2. Assam	*Shillong*	1,070
3. Bihar	*Jamshedpur-Tatanagar*	231
4. Orissa	*Bhubaneshwar*	455`
5. Uttar Pradesh (East)	*Allahabad*	505

Western Zone

SUB-ZONAL LOCATIONS (Area)	HEADQUARTERS	DISTANCE FROM BOMBAY (Rail Distance Miles)
1. Bombay/Greater Bombay	*Bombay*	---
2. Gujarat	*Ahmedabad*	308
3. Maharashtra (West)	*Poona*	119
4. Maharashtra (East)	*Nasik*	117

Central Zone

SUB-ZONAL	HEADQUARTERS	DISTANCE FROM

LOCATIONS (Area)			**BHOPAL (Rail Distance Miles)**
1. Northern Pradesh	Madhya	*Bhopal*	---
2. Southern Pradesh	Madhya	*Raipur*	335
3. Eastern Pradesh	Madhya	*Jabalpur*	200
4. Western Pradesh	Madhya	*Indore*	140

If, after detailed consideration, it should be decided that it would not be desirable to set up such a large organization during the initial years of the Dairy Products Marketing Board, the Board could appoint sole distributors in each of the five zones, choosing firms that have considerable experience in distributing consumer products. This would of course be a much easier solution but would naturally involve associating a private firm with the Marketing Board. While there is no objection to doing this, care would have to be taken to see that the Board appoints different firms for different areas and for different milk products. Efforts should also be made to ensure that the parties selected are of good financial standing, have considerable experience in marketing consumer products, and have a wide network of marketing channels at their disposal.

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THE ANAND AND BOMBAY MILK PROJECTS

BACKGROUND

In 1947, the first post-Independence Government of the then Greater Bombay State made a study of the milk supply of its capital city, Bombay. Private merchants handled most of the milk, which one scientist had described as being the bacteriological equivalent of London's sewage. For infants, nursing and expectant mothers, the municipal government had tried to supply country milk, but high costs and corruption had crippled the scheme.

That scheme's milk had come from Kaira District, 425 kilometres from Bombay. Private dairies at Kaira had sold dairy products to the British in both World Wars, and milk trading was traditional there. Kaira was also a centre of the Quit-India movement. The milk producers associated their low milk prices with foreign domination and wanted to market their milk cooperatively.

In 1949, the state government initiated the Anand-Bombay Milk Scheme. Its major elements were to be the state's dairies in Bombay and the Kaira District Cooperative Milk Producers' Union, located at Anand. Population and climate data for Bombay and Kaira are in Table 1.

OBJECTIVES

Greater Bombay Milk Scheme

In 1949, Bombay city's population of two million depended largely on the city's 45,000 buffaloes for liquid milk. The widespread practice of diluting the milk, excessive prices and insufficient supplies moved the authorities to action. The Greater Bombay Milk Scheme was therefore initiated with four objectives: (1) to remove buffaloes from the city and centralize milk production; (2) to provide consumers in the city with hygienic, reasonably-priced liquid milk, while avoiding state subsidies; (3) to achieve standards of milk processing and distribution comparable to those in Western countries; and (4) to develop rural milk production in Kaira District, as a source of milk for Bombay.

KAIRA AND BOMBAY;

Situation	**Kaira District**	**Greater Bombay**
Latitude Degree N.	22.70-23.18	18.58
Longitude Degree E.	72.15-73.37	72.50
Population, Total (1961)	1,977,540	4,152,056
Males, Total	1,039,720 (52.6percent)	2,496,176 (60.1percent)
Females, Total	937,820 (47.3percent)	1,655,880 (39.9percent)
Females per 1000 Males	902	663
Labourers (agro-industrial)	ND	1,805,193
Density per square mile	740	22,323
Rainfall (mm)	901	1,900
Mean Minimum Temp (C°)	13.9	23.2
Mean Maximum Temp (C°)	42.3	30.5

Table 1

Kaira District Cooperative Milk Producers' Union

In 1949, Kaira District had a human population of some 1.6 million and a milk animal population of 0.3 million (18percent cows and 82percent buffaloes). Most of the milk sold was produced by buffaloes which were cared for by the village women and children. Buffaloes were fed largely on coarse by-products (e.g. millet *[Pennisetum typhoideum*] straw and cotton seed) which cows could not efficiently convert into milk. Thus, the production of milk at Kaira was subsidiary to the production of food and cash crops (tobacco and cotton), and was based on by-products and labour with a low opportunity cost. Approximately 70percent of the milk went into traditional milk products for urban markets (especially Bombay). All the milk fat thus processed was sold, mostly as *ghee* (clarified butter) which had a shelf-life of ten months. Solids-not-fat (including milk protein)

were a by-product of the production of *ghee*. These by-products were not marketable and were frequently thrown away, especially in the winter flush season, when production was about 60percent greater than during the summer.

The Kaira District Cooperative Milk Producers' Union was therefore incorporated with four objectives: (1) to provide a market for all the milk which producers wished to sell; (2) to obtain for producers a greater share of the price paid by consumers of their milk; (3) to help producers of milk to increase their yields and profits; and (4) to provide the Bombay Scheme with a stable supply of fresh milk at a reasonable price.

Thus, the whole scheme was to link together the unsatisfied effective demand for milk in Bombay with the undervalued by-products and underutilized village labour of Kaira.

THE COURSE OF EVENTS

Development of the Bombay Scheme and the Kaira Cooperative

The Bombay Scheme

Many of the cattle owners in Bombay were wealthy: 130 of them owned 20,000 buffaloes. They resisted the efforts of the Bombay Scheme to centralize milk production at its unique "cattle colony" at Aarey, next to the Scheme's first dairy. The population of buffaloes in Bombay consistently grew faster than both the city's human population and the capacity of the Aarey colony to house buffaloes. To provide green fodder, veterinary care and the like required twice as much capital as had the dairy itself. Ultimately, by 1963, the Scheme reached a plateau. At that time it was producing about 35percent of the city milk consumption of Bombay and was receiving a subsidy of about 16percent (1/3 from the State and 2/3 in the form of imported milk powder). Between 1963 and 1967 retail prices doubled. Even so, the loss to the state (by subsidy) is said to still equal 10percent of these inflated prices.

The Kaira Cooperative

Starting with six village cooperatives and 250 litres of milk per day, the Kaira cooperative's procurement rose to 296,000 litres per day from 596 member-cooperatives. In the flush season of 1953 the cooperative could not take members' milk for 20 days out of 30 because Bombay said it was unable to sell more than the summer level of supply (although it continued to "make" some liquid milk out of cheap imported milk powder). Then, against the advice of foreign dairy technologists and Indian administrators, the cooperative's board of directors accepted its management's recommendation to build a milk powder plant. Since then, the cooperative has expanded its processing capacity thrice. It has never again had to refuse members' milk. Its annual procurement has risen from 14percent of the District's production in 1955 to 45percent in 1965 and, of this, only 45percent now goes to Bombay.

OPERATIONS AND PROGRESS OF BOMBAY SCHEME AND KAIRA COOPERATIVES

Effect on productivity

Bombay milk producers (including those in the Aarey colony) have always produced most of their milk by bringing high-yielding buffaloes and their calves to Bombay from other states at the start of their lactation. In the Aarey colony, the Bombay Scheme has provided veterinary care and low-cost green fodder, but output does not increase because about 50percent of the animals are slaughtered when they go dry and all the calves are allowed to die. Bombay is thus depleting the genetic pool of the surrounding states and its own daily yields are decreasing.

Kaira's investments in dairy development have always been smaller than Bombay's per head of milk cattle, but it has adopted an integrated seven-year plan to progressively double milk production by 1970-71.

Effect on foreign exchange

Both Bombay and Kaira received small donations of foreign exchange for dairy processing equipment in the early 1950s and larger donations later to increase their capacities. Kaira's second expansion enabled it to produce baby food, of which 4,000 tons a year had previously been imported.

Kaira has used a little imported milk powder to maintain output in the lean season. Bombay has used much imported milk powder to expand liquid milk supplies and decrease raw material costs.

Average increases in processing capacity per Rs. 1,000 of donated foreign exchange, were 69 litres per day in Bombay and 97 litres per day at Kaira. Bombay has used Rs. 0.315 worth of imported milk powder per litre equivalent of milk sold.

Technical innovations

Bombay's chief innovation was to "tone" milk by adding water and skim-milk powder. It is thus possible to sell cheaper milk (toned milk at 3percent and double-toned milk at 1.5percent fat) with a constant solids-not-fat content of 9 to 10percent. These milks have densities similar to milks traditionally sold to middle- and lower-income groups.

Kaira's innovations have largely been in processes for buffalo milk. A would-be foreign investor in condensed milk doubted whether Indian technologists could ever master the process. A foreign-owned competitor in India, selling imported baby food, said this product could not be produced in India, and that he would bankrupt Kaira, if it entered "his" market. Both times Kaira responded by innovating its own process. Condensed milk is presently an outmoded product with insignificant sales in India. Now that an indigenous product is available, the consumption of baby food in India has risen to 9,000 tons per year, and of this 5,400 tons (60percent) is made at Kaira.

Internal and external organization

In the Kaira Cooperative, authority is delegated to divisional managers responsible for procurement, processing and marketing. Middle management staff receive salaries that are high by Indian standards and they are responsible and effective. Bombay's organization is departmental: middle-level salaries are small with little gradation to recognize relative responsibilities.

Kaira is closely linked with the farmers' organization in the area. Each year, Kaira's veterinary and extension men form competitive teams which comb the District to promote improved practices such as artificial insemination, the production of green fodder, and the treatment of animal disease (Table 2).

Progress of the Kaira Project

Years	Area under green fodder (acres)	Number of artificial insemination s	Number of mobile dispensaries	Number of veterinary cases treated
1955-6	94,300	5,533	2	7,816
1960-1	127,500	9,077	4	16,874
1965-6	150,000	41,841	7	81,879

Table 2

The scheme's experience shows that a modern dairy organization, oriented to the market, can raise the consumer's valuation of milk solids. By so doing it can diminish the gap between producer and consumer prices and increase producers' receipts per litre of milk. This also forces the traditional milk traders, with whom the cooperative competes, to pay producers more for their milk.

Ability to compete

Pulses are the most widely accepted nutritional near-equivalent to milk in Bombay and Kaira. In Kaira, the selling price for milk has risen more slowly than local pulse prices, while in Bombay the milk price has risen faster.

Mawa is a traditional processed form in which milk is marketed. At Kaira, milk prices (paid to producers) have exceeded *mawa* prices by

70percent to 30percent; in Bombay, the figures are 15percent to 5percent.

To make its toned milk, Bombay could have extracted fat and sold it as *ghee*. Instead, it used imported milk powder, available at one-third to one-half of Indian powder prices. This costs Rs. 0.09 in foreign exchange per litre of milk gained. For each rupee spent on imported powder, Bombay gained 10.6 litres of milk and Rs. 3.15 of sales income. In effect, Bombay's toned milk prices in 1960-63 gave solids-not-fat an imputed negative value (i.e. the more powder put in, the less the charge). Kaira's butter marketing gave its milk fat solids an increasing imputed value (i.e. net revenues per kilogram of fat increased).

Role of official agencies

Especially at the start of the Bombay and Kaira Schemes, many government officials in dairying and animal husbandry were hostile to the Kaira Cooperative. For example, Bombay officials tried to prevent Kaira from acquiring processing facilities to make milk products, so the Kaira would have to depend solely on liquid milk sales to Bombay. Multilateral development agencies, however, fostered both Bombay and Kaira. For Kaira, especially (in contrast to the international private dairy industry), FAO and Colombo Plan specialists helped to devise the processes used for manufacture of cheese and cattle feed.

CRITIQUE

IMPACTS ON NUTRITION AND AGRICULTURAL DEVELOPMENT

Nutrition and milk supply

A recent study of a village where the Kaira Cooperative buys milk indicated that milk consumption per capita has increased since the

cooperative started there. Now that 55percent of Kaira's milk purchases are processed, no milk solids-not-fat are wasted in the flush season and milk is available (in powder form) where it would otherwise have been unobtainable. Baby food, of course, benefits infants. Kaira's generally lower prices have made these products available to the lower-middle classes. However, Kaira's lower liquid-milk prices have not had the same effect in Bombay. The high costs of milk production in the Bombay scheme have prevented it from significantly improving the nutrition of the poor majority. In 1963, before the Bombay Scheme's prices rose dramatically, its liquid milk went primarily to middle- and upper-income groups. Even when cheap imported milk powder was available, the double-toned milk made with it benefited few of the poor majority.

Agricultural development

The Kaira Cooperative has shown how a vertically-integrated cooperative can induce changes in milk production inputs and practices. The advantages of a direct line of command between the farmers' representatives and their workers in the field has enabled the cooperative to apply veterinary and extension skills efficiently. Cooperative purchasing, production and distribution of technical inputs have produced economies of both prime costs and scale. However, it is hard to see that the Bombay Scheme has had similar effects. The advantages of the Bombay market have been diluted for Kaira's producers by high-cost Aarey milk (and, earlier, by cheap imported milk powder). When Bombay's prices were based on cheap milk powder, the low price of available milk discouraged rural milk production. The exceptional price offered to Aarey producers encouraged urban production and, therefore, the slaughter of high-yielding milk cattle. Now, the Scheme's pricing policy has changed. Bombay is now the capital of Maharashtra State, and Kaira is in the neighbouring State of Gujarat. The Bombay Scheme now offers more favourable prices for milk produced in rural Maharashtra and this may encourage production there.

ISSUES REGARDING INNOVATION AND ORGANIZATION

Techno-economics and innovation

The Bombay Scheme's great triumph is that there are now 175 modern dairy organizations in India. Before this scheme, there were none. The scheme inspired leaders and administrators to emulation -- and it continues to increase popular awareness of milk's nutritional value. The originally innovative concept of toned milk can still be a means of selling separated milk fats at the relatively high prices which they command -- thereby making milk solids-not-fat, which include the protein of the milk, available to those who need them most. However this innovation is not yet economically viable.

Marketing and organization

Because the costs of the Bombay Scheme are large, they protect the city's urban milk producers and their traditional distributors who usually dilute their milk. The traditional diluter's large margins ensure that he can outbid the Bombay Scheme for milk. Thus, the Scheme's market structure has prevented it from achieving its nutritional and developmental goals, whereas the Kaira Cooperative has been able to market its milk products in a way that has allowed it to increase its ability to bid for raw milk. The total impact of the Bombay-Kaira project is based on the ability of the organizations to deal with supplier and consumer markets. The Bombay Scheme's officials (mostly dedicated administrators and skilled technologists) are in a department of Government, where attitudes and administrative practices make it difficult to take an entrepreneurial approach to the market. Kaira's professional managers are private employees of the farmer and include entrepreneurial men. Moreover, the Chairman of the Kaira Cooperative has held his position since the cooperative was founded. His standards of probity and orientation towards the producer now pervade the organization.

CONCLUSION

Private foreign capital and indigenous officialdom have frequently impeded the growth of the Kaira project. The effect of the whole Bombay-

Kaira project in improving nutrition and increasing the rate of agricultural development, can be attributed chiefly to techno-economic and organizational factors. In particular, innovation has succeeded where its techno-economics suited the environment. However, the techno-economics of innovation become effective only when supply and consumer markets are approached entrepreneurially. This approach permits a vertically-integrated producers' organization to invest its own funds profitably in agricultural development -- a process which can be accelerated by multilateral and home government assistance.

Indian Chemical Manufacturers' Association

RAJMITRA B.D. AMIN MEMORIAL LECTURE SERIES

Bombay
December 16, 1972

DAIRYING AS AN INSTRUMENT OF CHANGE

I am deeply honoured that the Indian Chemical Manufacturers' Association has invited me to give the fourth lecture in the Rajmitra B.D. Amin Memorial Lecture Series. The topic which I shall try to cover is "Dairying as an instrument of change." I note that in addressing you here today, I follow three distinguished predecessors, each of whom discussed aspects of industrial development which, for people in the chemical industries, may appear "closer to home" than is dairying. However, I hope that this brief address will serve to show that dairying is closer to all our homes than it may previously have been thought to be, because it is, I believe, an instrument of change with significance for all of us. Not only of technical change, but also -- and perhaps especially -- of economic and social change.

I feel that it is particularly fitting that this subject should be taken up at this time in this series of lectures, which commemorates the memory of Shri Bhailalbhai Amin, a man who did so much to demonstrate how our people can, with sufficient determination, adapt and build upon the common approaches to modernization in order to set up the dynamic and viable industries which our country needs to serve the interests of all our people.

In order to explore fully the potential of dairying as an instrument of change, it is best to look first into the practicalities of our national dairy development programme, which is popularly known as "Operation Flood." But, before I speak about "Operation Flood," I feel I should put our dairy industry, as we conduct it, in its proper perspective. I would cite as an example the Kaira Cooperative, of which I even today have the honour of serving as General Manager.

In the Kaira Cooperative we presently have a membership of 185,000 farmers who, with their families, total one million people. Each farmer of these 185,000 produces one litre, two litres, maybe five litres of milk a day. He owns one buffalo, two buffaloes or three buffaloes. So we collect milk every morning and every evening from 185,000 people situated in an area of 2,500 square miles, located in about 710 villages.

You might consider this an impossible task: to collect milk twice a day in this manner. But, we happen to be doing it. It has its problems undoubtedly; however, I hope to indicate some of the advantages it may also have.

The total collection at the Kaira Cooperative's plant at this moment is approximately 500,000 litres of milk daily. The average fat content of this milk is eight per cent because it is all buffalo milk. Now, before collecting the milk from these farmers, we had of course to form the organization that would achieve this and our system is a cooperative one. We have approximately 710 villages in this area of 2,500 square miles, and, as I mentioned, in each village we have helped to establish a milk producers' cooperative. It is run by an elected managing committee of the farming members of that village. These 710 village cooperative societies are federated into the Kaira District Cooperative Milk Producers' Union, which owns the dairy plant. Every morning, the farmers in each village bring their milk to the village milk collection centre where it is received, measured and tested for fat, and where cash payment is made for the previous evening's milk. In the evenings they again bring their milk and are paid for what they poured in the morning.

What this implies is that we do 185,000 fat tests every morning and every evening. We make 185,000 payments every morning and every evening. Some 85 trucks move the milk, according to a carefully planned schedule, from the villages to the plant and, when it comes to the plant, it now totals approximately five hundred thousand litres of milk. In 1947-48, when we started, it was 500 litres. The rather large rural organization that has inevitably been created in the process of setting up this collection

arrangement is also used to feed back to the farmer the inputs he requires to increase his production. The first input is cattle feed. We have India's largest cattle feed plant in our system. We distribute approximately 250 tons of balanced cattle feed a day.

We also have a veterinary service; we guarantee our farmers that within four hours of being asked we will send a veterinarian to any member in this whole area, day or night. We maintain 39 graduate veterinarians and an even larger number of stockmen and veterinary dispensaries for this purpose. Every year we treat approximately 200,000 cases.

The next input we provide is semen from selected bulls at our own artificial insemination centres. We have 70 bulls, the progeny of the best milk-producing buffaloes in the district, bulls whose mothers have given as much as 20 litres of milk containing eight per cent fat. We do approximately 200,000 inseminations each year and this, too, is the largest number of inseminations done by any organization in India. We also have extension schemes for increasing fodder production. We have our own agricultural department for this purpose and we also provide other technical inputs like newsletters, circulated to the farmers that deal with better methods of animal husbandry. So altogether the Kaira Cooperative Union has become a very large organization and the total value of milk and milk products sold per annum now exceeds Rs. 300 million. I have explained this only to set the stage for you to better appreciate what we mean by "Operation Flood." Now I will speak about the setting for "Operation Flood".

Today, India is going though an agricultural revolution. Despite temporary setbacks, food production in India is reaching levels at which all imports of food grains will stop. No one would have believed this was possible, even as short a while as four or five years ago, because India was so heavily dependent on imports of food grains from abroad. This achievement has become possible because of the vast changes that are taking place in agriculture: because we have moved into tractors, we have moved into better working management; because we have built

enormous fertilizer factories; because we have pesticides, insecticides; and because of the modernization of agriculture generally.

There was no point in talking about the quality of nutrition until there was some reasonable quantity of nutrition. There was no point in talking about protein until there was enough rice to eat. We are now reaching the stage when we have the grains. It will then become possible to spare a portion of our land's produce for cattle. This then is the time when animal husbandry, and dairies in particular, can make a big impact in India. This is the time when an "Operation Flood" becomes possible.

The big success in agriculture has brought with it a very serious problem; there are many problems but the most serious is the fact that we no longer need 75 per cent of our population to be engaged in producing the food of the nation. In America I am told it is hardly 5 per cent of the population that produces food. But in India it was 75 per cent. Thanks to the agricultural revolution we no longer need 75 per cent of our people to be producing the food of the nation. Let us assume that we need only 65 per cent. What will the other 10 per cent do? Ten per cent means 55 million people; that is, 11 million adults who need jobs. Normally one would assume that as an agricultural revolution proceeds there is also an industrial revolution and men released from the land will be absorbed by industry. But what magnitude of investment is needed to create 11 million jobs in industry? It would be an investment clearly far beyond our immediate capabilities.

What then shall we do with the 11 million surplus people on the farms who will migrate to cities looking for work? The resources of our cities are already over-burdened: there won't be housing, there won't be water. So today is not only the time when we *can* make massive investments in animal husbandry, today is the time when we *must* make massive investments in animal husbandry because dairying, as we practice it, is highly labour intensive. An economic survey in some of Kaira's villages has shown that, of the total income of the village, 50 per cent comes from milk. Dairying can double the incomes of our farmers, our small farmers -- and all our farms, with few exceptions, are small.

So this is the time when investment in dairying would, to some extent, hopefully arrest the drift of population from the rural areas to the cities.

A farmer and his wife can take care of the farm. The farmer takes care of the fields; he has three acres of land (that is the average farmer of Kaira) and his wife takes care of one or two buffaloes. The farmer gets his return from his crops when they are marketed once or twice a year; with the proceeds he buys his clothes, repairs his hut and looks after his plough -- the annual expenditures. His wife sells the milk and gets two, three, four or five rupees a day with which she buys the daily necessities for her family, whether these be salt, sugar or kerosene. Dairying, therefore, as we practise it, supplements agriculture. The buffalo is fed the low grade surplus, the by-products of the farm, and milk was also produced as a by-product. But the point is that it is no longer a by-product because 50 per cent of the income of the village is from milk.

One other point to be made before going on to the details of "Operation Flood," concerns the investment in our factory, the Kaira cooperative, which amounts to some Rs. 30 million. Sales total over Rs. 300 million. Where else, except in animal husbandry, can you get a capital output ratio of 1:10?

So now we come to the question, "What is 'Operation Flood'"? I will take the example of a city like Bombay to illustrate "Operation Flood". Bombay city has a population of approximately four million people. The total market for milk in Bombay is one million litres at the present time. Out of this one million litres, when "Operation Flood" was conceived, the Bombay Milk Scheme (run by the Government of Maharashtra) was distributing 400,000 litres a day as pasteurized, bottled milk. The other 600,000 litres were produced by 100,000 buffaloes kept within the city limits. The Bombay Milk Scheme's price was Rs. 1.70 per litre for a full bottle of milk with 7 per cent fat. This was for pasteurized bottled milk. The other 600,000 litres -- unpasteurized unbottled, and frequently adulterated milk -- was sold at Rs. 2.20 per litre, going up to Rs. 3.50 a

litre during festivals and the dry season. The price and quality of the organized sector -- the Bombay Milk Scheme -- did not influence the price and the quality of the unorganized sector because the organized sector had a minority share of the market. The only thing that happened was that because the price was low and the quality was good the Scheme was under demand from the entire city, a demand that the Bombay Milk Scheme was unable to satisfy because it couldn't get the milk.

Faced with this situation, we looked at the 100,000 buffaloes kept in the city -- they were kept in the most awful conditions; they were living in cesspools of dirt and filth and squalor. All the cow dung was washed into the city drains, choking them. The cow urine was washed into the ocean. In Bombay there is not enough room for people to live, but there are 100,000 buffaloes living there. There were a lot of problems connected with keeping these city cattle, but let us look at points which are even more relevant to us. Each year, 100,000 buffaloes were brought into the city of Bombay as soon as they had calved in the rural hinterland and the distance from which they were brought may have been as far away as the Punjab.

So cattle, as soon as they calve, are taken to the city along with their calves. Then the first thing they do to the buffalo when it reaches the city is to teach her to let down milk without the calf. This takes 15 days. No sooner has this been done than the calf is allowed to die. Sometimes they help it to die. The calf mortality is 100 percent within 15 to 20 days from arrival in the city of Bombay. No cattle keeper in the city brings anything but the finest buffaloes from the rural areas because, under the adverse economic conditions of that city, the fodder and feeds also have to be brought from the rural areas. Nothing but the most economic animal will produce enough money for the owner. So he goes to the rural areas and buys the finest buffalo and brings it along with her calf -- and kills 100,000 calves -- the progeny of the finest buffaloes of India -- in Bombay city alone each year. Then the buffalo becomes dry after seven to eight months. But she has not met a bull in Bombay. This is also intentional because, in the process of conceiving, I am informed that milk production will fall slightly and therefore the cattle owners are not

interested in letting these animals conceive. So at the end of the eight or nine months they become dry and they are not pregnant. What to do with such an animal in the city of Bombay? If she should meet a bull, you will have to wait ten months before she will come into milk again and who is going to feed her for ten months when she is producing no milk? So fifty percent of the time these buffaloes are sent to the slaughter house. There are enough people in our cities who eat meat. So fifty percent -- or 50,000 buffaloes -- are killed at the slaughter houses in Bombay. The other fifty per cent who may be younger, are sent back to the rural area, 300 to 400 miles away, so they can be salvaged to produce milk after having calved again. So Bombay city alone destroys 50,000 of the finest buffaloes of India each year.

Calcutta is no better. The people of Calcutta prefer cows' milk: they have a liking for certain sweets which can best be made from cow's milk. They have decimated the finest of the cow population in Punjab by taking the cows from there, along with the calf, then killing the calf and ultimately making the cows dry. But these cows cannot then be killed because under the laws of the land you cannot kill a useful cow; therefore they break its leg -- now it is a useless cow -- then they kill it.

What is the solution to this problem? This type of decimation of the finest of our cattle is what has brought Indian milk production and Indian animal husbandry to its present level, particularly when we have done nothing to remove the genuinely useless animals. We seem to specialize in killing the best.

The National Dairy Development Board took stock of this situation and tried to find a solution. Two or three solutions had already been tried out, but they had failed. The first solution was the famous Aarey Milk Colony. This is a milk colony which houses 15,000 animals and, when it was built in 1950, there were already 45,000 buffaloes in the city of Bombay. A milk colony was built, at the cost of Rs. 45 million, to house 15,000 animals in the most exquisite conditions. Having moved 15,000 buffaloes from the town, there should have been 30,000 left, but the mathematics went wrong -- there are 100,000 left instead. More quickly

than we could move the cattle, additional cattle came in. The cost of production in the milk colony was high, as one might expect. Therefore, under the protective umbrella of the high prices that the Aarey Colony type of production required, the cattle owners could operate with the cattle coming in, being milked dry and then killed, and so on.

The second solution was attempted by the Government of Gujarat, which watched the decimation of its finest cattle with horror -- and so, not more than 17,500 cattle from the Kaira District are allowed to be exported each year by law. Not more than 45,000 from the northern District of Mehsana will be permitted to be exported. And before an animal can be exported a receipt must be produced to show that one dry animal has come back to the District. These laws were passed hoping that they would reduce the depletion of our finest breeding material. But the cattle merchants just bought the cattle, walked them over the border, which is just a bridge over a river, and exported the cows from the neighbouring district. The law didn't work. Punjab, whose entire cattle wealth has been seriously damaged by this practice, passed a law saying that no buffalo or cow can be exported until it has reached the age of eight. In making this law they thought the buffalo or cow would have produced two or three calves before reaching this age. The only difficulty was that it bred corruption in the sense that false papers stating the creature's age were not very difficult to obtain and many people got false documents and exported the cattle.

All the Dairy Board said was that the problem we have been discussing was really not an administrative one. It is not a legal problem. It is really a milk marketing problem and if you want to find a solution for it, there is only one solution that will work -- put milk in the city. Then cattle will not go to the city. And this is one of the bases of "Operation Flood."

Just for a moment imagine what would happen if the 100,000 buffaloes in Bombay could be wished away by magic to a rural area. How much milk would they produce there? And what about the fodder and feed that goes into the city? The first answer is that they will produce

exactly the same: 600,000 litres. So in shifting the cattle you lose no milk. What would be the situation in the second year, if the rural area is not required to supply 50,000 freshly calved animals to replace the 50,000 that have been killed? Then the answer is not 600,000 but 900,000 litres, provided you increase the fodder and feed available in the area to support the extra production. What about the third year? It has been calculated that it would be anything up to 1.2 million litres. The fourth year, 1.5 million litres. Now the young females have come into milk, as it takes four years for a buffalo to come into milk. So we plotted this, assuming certain mortality rates and engaging the help of economists, and we found that the milk production in the rural area, starting with 600,000 litres a day, would rise to 3.3 million litres a day in the eighth year. There is, in fact, a tremendous multiplying factor involved in keeping the cattle in the rural area and not allowing them to be taken to the cities. Taking milk to the cities on four legs is a most uneconomic and wasteful way of getting milk from the rural areas. Thus, having come to this concept, the title "Operation Flood" implies not flooding the cities with milk but an attempt to stop the taking of cattle from the rural areas to the cities, so that a flood of milk will be generated in the rural areas and flow from there into the cities, satisfying demands and needs more economically than taking cattle to the cities. But to shift the cattle, to dismantle these factories that produce milk -- namely, these buffaloes -- and re-erect them, takes time and production must be kept going. Therefore we have asked the World Food Program of the United Nations for 42,000 tons of butter fat and 126,000 tons of skim milk powder, to be recombined into milk in our four cities of Bombay, Calcutta, Delhi and Madras, covering a population of 20 million people.

And while we put this milk in, we believe that what will happen is that the flow of cattle will be arrested, as we capture the milk market of Bombay for the organized sector. Capturing should be very easy, as we have a better product of reliable quality at a competitive price. So we hope to capture the market of Bombay for the organized sector with the milk we have, with the donations of milk powder and butter oil we will get, and having captured it there will be no cattle left in the city because they will have no market to serve. "Operation Flood" is a marketing exercise

and, I think, therein lies its strength and therein also lie some of its problems.

Now the exact mechanism of the scheme is very simple. We receive these donations and in order to handle this scheme the Government of India has set up a corporation, called the Indian Dairy Corporation. This corporation, which is registered as a company, will receive butter oil and milk powder donated by the World Food Program. It will then give this butter oil and milk powder to the milk schemes in Bombay, Calcutta, Madras and New Delhi for a price high enough to maintain the incentive to produce milk in the rural areas. And as we calculated at that time, if the world market price at the start of "Operation Flood" for these commodities was '*X*', we would sell them to these schemes at 2.5*X*. Therefore, $42 million worth of these commodities which the World Food Program donates to us will generate $127 million. The difference -- say, Rs. 600 million -- constitutes a tax which we apply to mop up the consumer rupees for investment in rural animal husbandry. I am told that economists call this anti-inflationary. Now this total of some Rs. 960 million is to be used for building additional processing and marketing capacities for milk in the cities, adequate to capture the total milk market.

The present capacity of the dairies in these four cities is one million litres a day. This is being expanded to 2.75 million litres a day and would cost approximately Rs. 400 million. We are generating some Rs. 960 million, so we will invest the rest of that amount in creating replicas of the cooperative at Anand in other states. In all these states, we shall endeavour to help create a feeder balancing plant like Anand. A plant that will be sensitive to the needs of farmers, a plant that hopefully will be owned by the farmers and certainly a plant that, apart from being sensitive to their needs, would be responsive to their demands. In "Operation Flood" the main problem is to create these farmer organizations to run these plants. It took us about 25 years to create Anand. We duplicated Anand in Mehsana, 100 miles to the North, and this took ten years. We did a third organization in our neighbouring district, Baroda, and that took us four years. We built another in Surat, 100 miles

south, which took us three years. Now we are creating two more in Gujarat and we think that will take up two years. As we gain experience, we seem to be getting better in building up these organizations, but I would admit that we have created these organizations in the state of Gujarat -- where Anand is in the centre -- and in other states it is not going to be so easy.

Think of the significance of these milk producers' organizations. The Kaira Cooperative, for example, organizes 185,000 fat tests morning and evening in 710 villages. Based on these tests, the producers receive payment for their morning milk in the evening, and for their evening milk next morning. Inevitably, to manage such a task the cooperative has built up a considerable organization of its own.

But, apart from the organizational capacity which is implied, think what it means in a village, when the people stand in line twice daily to sell their milk. They take their place in the queue, regardless of caste or traditional authority. The highest may find himself following the humblest -- and each knows that the cooperative -- their own cooperative -- will treat them as equals and with fairness.

Moreover, each village cooperative is not only a milk collecting centre. It has a *pukka* building -- often in a village which has no other such building -- and the building is washed down twice daily after each milk collection. The containers used in collecting the milk are thoroughly scrubbed and insecticides are used to keep down the flies. Thus, each of the 710 cooperatives is not only a milk collection centre -- it may well also be the first example of modern sanitation in its village.

Think also of the women who, in Kaira District, keep the buffalo. Previously, when the buffalo fell seriously sick they would tie a black thread on its left horn -- and wait for it to die. Now their cooperative union has some 39 veterinary doctors -- all of them employed by the farmers and paid by them. Within four hours, a mobile animal clinic -- with a veterinary doctor and an assistant -- can answer a call for veterinary care from any of the 710 villages. Thus, the milk producers see the wonders of

modern science (in this case, veterinary science) applied to their own needs.

Inevitably, curiosity is aroused in the villages as to the source of these modern benefits. Many of the milk producers may never have seen Anand, the headquarters of their cooperative union, although it is not more than 40 or 50 miles away from their village. So we bring them to Anand. Some 100,000 women -- all of them milk producer-members of the cooperative union -- have so far been brought to Anand by the Union. They have a picnic and see the city -- and most importantly, they see their own dairy plant, their cattle feed plant and the artificial insemination centre, where some 50 bulls are kept to produce semen for the cooperative's artificial insemination system.

At the cattle feed plant, we explain to them why the cattle feed has 16 per cent protein in winter, when other feedstuffs are available -- and 19 per cent protein in summer, when quality feedstuffs are in short supply. The technical staff at the cattle feed plant also explain to them why it is necessary to give good feed to the pregnant buffalo in the last three months of her pregnancy, even though she is not producing any milk, because it is necessary to see that the foetus receives adequate nutrition in order that it will ultimately mature to its full genetic potential. When we explain these matters, are we talking of only animal nutrition?

Similarly, when they go to the artificial insemination centre, they are shown live semen under the microscope and they are told how artificial insemination actually works. But when we talk to them this way, are we only talking of artificial insemination for the buffalo -- or are we not rather talking of the reproductive process itself and its control?

We should remember also that these milk producers are by no means confined to those with three acres of land or more. They include even widows with virtually no land and a family to feed. By applying her and her family's labour to the task of keeping one or two buffaloes, the widow is enabled to live. And this applies also to many who are today classified as "landless labourers."

What, then, is the real significance of this approach to dairying? It is an instrument of change in three ways: -

i) It is a means whereby the villagers organize themselves for their own betterment, building for themselves a means of creating the change that they want;

ii) It is an instrument which can benefit not only the "haves" in the village, but also the "have nots." In fact, the benefit that the sub-marginal farmer and landless labourer can obtain from dairying is proportionately greater, because they start from such a pitifully low basic income;

iii) And finally -- perhaps most important of all -- it is a means of demonstrating, within the village itself and even to its poorest members, what is meant by "modernization," what is meant by "science" -- and how even the poorest villager can himself use these means of modernization for bettering his own lot now and giving his family a hopeful future.

As I said, there are difficulties in helping the villages to create these organizations: there are vested interests who stand to benefit from the lack of change; a new approach is needed to the teaching of skills in the villages in order to make such an organization work -- and above all, some extra resources have to be deployed, in order to make the sub-marginal farmer viable and to give the landless labourer a year-round means of living.

But, surely, this is what "development" is about. It is not a matter of Gross National Product -- it is not even simply a matter of so many millions of litres of milk for our cities, important though that may be.

True development must be such that it brings the modernization process to the service of our majority: namely the rural poor. It must bring to these people not only the pittance which they need for their

humble diet, but also the means whereby they can act together to obtain for themselves the benefits of modern science and organization -- and, in that process, the means whereby they can build for themselves -- in every village -- a society which is at peace with itself, concerned with its neighbours -- and able to see a bright future for all its children.

In its own way -- and, I trust, in a humble way -- dairying is such an instrument of change: an instrument not only of technical change, but also of economic and social change. And it is to such instruments that we must look to build the India of tomorrow.

Indian Agricultural Research Institute

New Delhi
January 31, 1974

Sixth Lal Bahadur Shastri Memorial Lecture

The larger dimensions of dairy development in India

After he had been Prime Minister for a relatively short time, Shri Lal Bahadur Shastri expressed the wish to stay in a village for at least one night. A modest wish, one might think, but hardly one to be welcomed by conscientious security men responsible for his safety. Nevertheless, when the Prime Minister came to Anand to inaugurate the cattle feed compounding plant of the Kaira District Cooperative Milk Producers' Union, not all of his convoy took quite the route that had been published. Instead, it made an unscheduled stop; a diminutive figure transferred from a large limousine to a jeep-type vehicle -- and the convoy continued sedately to Anand, while the more homely vehicle proceeded over a bumpy road to the village of Ajarpura, where it deposited a delighted Prime Minister at a modest village house. Not a policeman in sight! Complete freedom to roam the village, to drink tea with farmers and labourers -- to get back, in other words, to what India is all about. Ignoring all doctor's orders, the PM talked with the people till 2:00 a.m. -- and rose early next morning to talk with them again over a breakfast of tea and *chapattis*.

When he reluctantly emerged from the village -- and after a remarkable, earthy, extemporaneous address to the 40,000 cooperators who attended the inauguration of the cattle feed plant -- the Prime Minister was not content to let the matter end there. He said that the fact that there was a Kaira Cooperative was all very well and good, but why were there not more of them?

We told the Prime Minister that the Kaira Cooperative had already helped similar institutions to get going in Mehsana, Baroda and Surat -- but that it was difficult to see how the cooperative members' resources

could do the job on a national scale. The Prime Minister replied that he felt that there should be an institution, supported by the Central Government, set up for the express purpose of helping milk producers to organize their own "Anands" in all the milksheds of the country. And so it came about the National Dairy Development Board was born, with its headquarters at Anand. Not without some wrangling among the bureaucracy, it is true -- but that is a dimension of our dairy development with which I shall not attempt to deal today! Rather, what I shall attempt here is to show something of how the country is now trying to fulfill Shri Lal Bahadur Shastri's wish that there should be "Anands" in all our milksheds -- and how perceptively he envisaged the larger dimensions of dairy development which our country could thereby achieve.

The framework

First one must look at dairy development within the framework of the country's total situation. Of course it is true that we dairymen often have to speak as if dairying were in some way unique -- but, for our purposes here today, one must note the many characteristics that dairying has in common with other agricultural industries. It is important to recognize that dairying is an industry: even the most traditional approaches to the supply of liquid milk for our small towns require some organization for transport, processing and marketing *plus* some investment in equipment. It follows that since there is investment, some capital is involved and therefore -- whether it be in the private, public or cooperative sector -- some application of the concept of "return on capital" must also be involved. Moreover, even these simple "industrial" characteristics of dairying oblige one to bear in mind two more: the importance in dairying of demand-supply relationships and the fact that, whether planned or unplanned, all industries must in some sense compete for investment funds.

Then also, like other industries, dairying can develop satisfactorily only if its development is consistent with that of the country as a whole. I am thinking particularly of rural-urban relationships. Many so-called developed countries are proud of the fact that only, say, five percent of

their people work on the land. In a few years time, we shall have a population of 800 million -- does this mean that we shall aim at having an *urbanized* population of 760 million, leaving five percent (40 million) on the land? Surely not. Even if such a monstrous urbanization were contemplated, we could not find the capital for it. Thus, at least for many years, the majority of our population will live in innumerable rural or semi-rural communities, where agricultural land is the major "capital" from which most people derive their livelihood.

This widespread, continuing dependence on the land has two practical implications for dairying -- as well as for other agricultural industries: one is that many people will continue to produce milk simply for their own families and, at most, for their near neighbours. The other is that the effective demand for a modernizing dairy industry's products will be limited to the demands of families who cannot better be supplied by their own or a nearby milch animal (*plus*, of course, any demand for exports).

Lastly, in considering the framework within which our dairying must develop, one cannot ignore the fact that there is at present little that is idyllic about our dependence on the land. Most of the people who sigh the loudest that they want to "get back to the land" are the very people who are least likely ever to be obliged to do so! Unfortunately for those who cannot escape it, the land is too scarce -- and often too unproductive -- for it has yet to provide most of our rural people with an adequate livelihood. This is the basis of our present rural poverty. Dairying -- and, in my opinion, all other agricultural industries -- cannot ignore this fundamental fact.

Thus, the larger framework within which one must view our dairy development has three main components:

i. Dairying is an industry -- but its development must also serve our rural and semi-rural population;

ii. Planned or unplanned -- public, private or cooperative -- in its development, dairying must compete for investment funds; and

iii. Our dairying must develop in such a way as to contribute to the solution of the problem of rural poverty.

I believe that if one accepts this framework, there are five larger dimensions of dairy development which must be observed.

1. The institutional dimension

As in other areas of our national heritage, the main problem of our dairy development has not been that of knowing *what* to do; rather, it has been that of knowing *how* to do it -- or how to get it done. In practice, in our country as in others, only one institutional structure has proven effective in getting dairy development done: that is a unified organization of milk producers which is responsible for procuring, processing and marketing its members' milk -- an organization owned and controlled by milk producers -- and therefore responsive to those producers' needs.

Such an organization enables even the poorest producers to hire their own *professional* technical personnel and managers. It gives the producers command over the technologies that they require in order to market their milk to consumers who need it whether as liquid milk or as milk products. It also enables producers to invest in the facilities and services that they need in order to improve their milk production.

How does this work? The structure is a familiar one: each village in the milkshed forms its own primary cooperative society. All such societies in the milkshed form a cooperative union -- and this union owns, manages and operates the dairy processing plant, the procurement organization and the marketing system for its members.

But note that each primary society is managed by a paid -- and, in this sense, a professional -- secretary. Each primary society has its own

trained men to carry out on-the-spot artificial insemination of members' animals, to provide first-aid veterinary care for those animals, etc. Because they are paid by the society, however modestly, these men have to do their work conscientiously. They cannot claim the immunity of a remote, entrenched bureaucracy.

Similarly, the cooperative union has its own managers and technical personnel, paid by the members out of the margins earned on their milk. If they fail to earn the appropriate margins, the members will soon instruct their Board of Directors to get these managers and technical people removed.

When, however, the managers and technologists do perform, the producers find that they get a good price for their milk -- *plus* a bonus at the end of the year -- and they soon become keen to increase their milk production. And it is here, I believe, that the institution comes into its own. The union can own and operate its own cattle feed plant -- the members' primary societies are ideal retail outlets for such a product: members come twice a day to sell their milk -- they are paid twice a day for their milk -- so they readily purchase their feed concentrate requirements, if necessary on a daily basis.

Just as the union has the managerial and technical resources to operate its own cattle feed plant, so also can it organize intensive systems to provide artificial insemination services, veterinary and extension services for all its members. At Anand, for example, the union has over 40 professional veterinary doctors; it carries out some 200,000 artificial insemination services yearly. It markets lucerne seed to its members, helping them grow some ten thousand hectares of green fodder annually. All this in one district only -- at no cost to government.

Thus, as the organization grows and gets a good return on its members' milk, the members rapidly develop their interest not only in improving their milk production but also in improving the market for their milk. So they use their organization to obtain the services of people who

are professional marketers and the organization becomes increasingly consumer-oriented.

2. The techno-economic dimension

I have described briefly the two main effects of a functional institutional structure for dairy development. These are that it builds and supports the milk producers' interest in improving milk production, while also making it in the producers' interest to provide consumers with the mix of liquid milk and products that comes closest to satisfying consumers' preferences *vis-à-vis* quality and price.

Here one is speaking of an industry evolving technologies which observe economic criteria -- in fact, "techno-economics".

The techno-economics of our modern dairying must achieve three objectives:

i. It must evolve *consistently* through the production, procurement, processing and marketing phases of the industry.

ii. It must benefit producers and consumers who do not come directly within the ambit of the industry, as such.

iii. It must have built-in, self-improving factors.

This need for built-in, self-improving factors can be demonstrated by examining the present built-in, "self-destructive factors" of our traditional dairying techno-economics. Our milk production, for example, is characterized by milch animals that are inefficient converters and by milk producers who are too poor to acquire improved animals. It is not worthwhile to feed inefficient animals well -- so they continue to produce little milk. It is thus that the milk producer remains too poor to acquire a better animal. In fact, the inefficient animals tend to multiply and deteriorate, generation by generation. This is the built-in, self-destructive

factor on the production side of our dairying. There are similar self-destructive factors built into our traditional dairying industry's traditional approaches to milk procurement, processing and marketing. This is precisely because for a long time our traditional milk trade has had to balance a stagnant milk production against a surging demand. Today in our major cities, milk and milk products account for nine to 13 percent of most consumers' expenditures. In the face of a widening gap between production and demand, the traditional trader extends and cheapens liquid milk by adding sugar, water, rice flour etc. -- which we proudly call "dilution". To be prepared for the lean season, the trader frequently tries to accumulate stocks of *ghee*, *mawa*, etc. during the flush season -- which we proudly call "hoarding". The traditional trader earns handsome margins for these dilution and hoarding functions but, really, he is doing only what the system requires of him, even though it makes our dairying self-destructive. This is why the techno-economics of our modern dairying must reverse such self-destructive factors.

To achieve this reversal, the key is the *consistency* of change throughout the production, procurement, processing and marketing phases of our dairying -- and, of course, the major criterion throughout these phases is "productivity" in the use of resources, in the use of capital. Hence the use of producer-oriented institutions to enable poor milk producers to acquire milch animals that are better converters and which make their family's labour more productive.

Similarly, in the processing and marketing phases -- which have to be considered together -- we have to evolve "systems" for bringing milk and milk products more efficiently to urban consumers. For example, our present practice of building palatial Western-style urban dairies in cities where demand is less than 100,000 litres is too costly; it makes the modern dairy industry even less competitive with the traditional system. Hence our current efforts (which I believe are on the brink of success) to evolve a system known as the "bulk-vending system" which would enable several such cities to be served more economically by a single larger dairy. We have yet to evolve such techno-economically improved systems for milk products such as *ghee* and I shall briefly discuss this need later.

Meanwhile, however, let me illustrate the third achievement which I mentioned as being required of the new techno-economics of dairying: It should benefit producers and consumers not directly within the ambit of our modernizing dairy industry. Take, for example, the cross-breeding programmes which are being instituted in some selected milksheds.

In effect, these cross-breeding programmes will encourage the rearing of more improved heifers than the producers will wish to retain. They will keep the best -- which will enable them to take advantage of the better feeding and management available in the milksheds -- and they will sell off the rest, which will thus be moved into the non-milkshed areas, where they will be considerably better than the existing milch herds, to the benefit of the milk producers in those areas and the consumers they serve.

Thus, in fact, the programmes for cross-breeding and upgrading milch animals in the milksheds will result in the multiplication and distribution of improved animals in ever-widening circles of increasingly improved productivity. This must be the "trigger" that sets off a built-in-change towards increasing productivity throughout our developing dairy industry.

3. The industrial dimension

Unfortunately, several isolated projects undertaken so far to produce cross-bred animals in our milksheds have made little impact, partly because they *are* isolated efforts. Most of dairy modernization cannot be achieved in small "pockets": the industrial infrastructure required can be sustained economically only if the scale involved is rather large. This infrastructure is of two distinct kinds: that which is of a general industrial nature; and that which pertains to the food industry in particular.

The general industrial infrastructure required involves factories to produce veterinary immunological and biological products; factory-scale

production of frozen semen; and factories to produce the equipment that is needed for efficient milk processing and marketing. Nor is this just a matter of copying similar factories of Europe and America, whose available capital, stainless steel and human skills are quite different from ours. We have not only to build new kinds of factories, but these must embody systems, processes and approaches to marketing that are designed expressly to enable us to serve *our* producers and consumers.

The second part of the industrial infrastructure required is the building of what we usually think of as "dairies". However, our experience shows that while some storage and processing facilities are needed, it is certainly not appropriate simply to copy the dairies of other regions of the world where dairy products are propagandized as something almost magical, rather than as the simple and wholesome foods which they should be. In the future, we must build "food factories," rather than structures which, because we call them "dairies," must be reserved for the lactic secretion of the cow, even at the cost of very poor utilization. These "dairies," which are also "food factories," must be used simply to produce as many wholesome, good value food products as possible.

This relates to the new techno-economics which I outlined earlier. For example, most *ghee* is diluted in varying degrees with *vanaspati*, to enable the traditional sector to provide consumers with a range of mixed *ghees* at an appropriate range of prices. If our modernizing dairy industry were to provide consumers with similar "vegetable *ghees*," properly labeled, consumers would know what they are paying for. These modern *ghees* would be both safe and pure; the majority of consumers would be far better served; and the nation's investments in processing facilities would be far better utilized. Thus, we must structure the techno-economics of *our* modernizing dairy industry so that it increasingly offers products that taste the way that good foods should at the best possible prices, regardless of whether we make them with 10 percent milk solids and 90 percent vegetable solids or *vice versa*. Properly marketed, these products would rapidly find consumer acceptance because they would offer better taste and better cooking properties at better prices than the

products which most of our consumers are now compelled to buy from the traditional sector.

There are many such examples of how the desired techno-economics of our modern dairy industry dictate the industrial aspects which have to be looked after (namely, the production of processing equipment, technical inputs, etc. -- and the establishment of processing facilities which will increasingly integrate dairying with our modernizing food industry as a whole) and that this industrial infrastructure must complement the institutional and techno-economic development of our modern dairy sub-sector.

4. The dimension of technical modernization in rural areas

I mentioned in my introduction to this talk that I do not believe that we can or should aim -- at least in our lifetimes -- at a society wherein only, say, five percent of our people will be directly dependent on the land. Not only have we insufficient capital to create the number of industrial jobs that this would require -- but I suggest that we also do not have the required *social* capital. No society has. We have only to look at the racial tensions of many European and American cities, at the appalling neglect of the aged throughout the West, and at the other symptoms of social deterioration that seem part and parcel of urbanization. Considering the inability of so-called "developed" societies to cope with mass urbanization, it is not surprising that our own cities are becoming hell holes. One cannot wish the majority of our people to be obliged to live in such places.

Instead, one has to face up to the fact that our rural-urban priorities must change. While trying to make life for those who do have to live in our cities socially and physically secure, we must also try much harder to see to it that the majority of our people can live in a rural society that will offer an increasingly satisfying and productive experience.

A food industry such as dairying has to deal with this task on two levels:

First, there is the fact that we need good food in order to make the most of our lives. Those of us who influence the modernization of any part of our food production, processing and marketing, must see to it that our people get the food they need. This sounds elementary. But it is disturbing to note how often people talk as if a man can eat something that is called a "Rural Labour Project" or even an "Intensive Cattle Development Programme"! Those of us who are responsible for the agriculture-food sector really have to discipline ourselves to eschew such evasions.

Once this need for good food is accepted, then it is our duty also to consider that man does not live on food alone: we have also to create what I have referred to as the "social capital" which will enable our majority to lead an increasingly productive and satisfying life in rural communities. There is nothing unreal or intangible about this dimension. It calls for nothing less than the *technical modernization* of rural society.

Taking the example of dairying, consider the fact that one-third of our districts are potential areas for efficient milk production. This means that a modern dairy industry, based on organizations owned and controlled by milk producers, implies nothing less than the build-up of institutions which can reach into the heart of even the smallest villages in one-third of the country.

Consider what it means in a village where the majority of the people own a milch animal, when they find that there is now an organization that enables *them* to employ a literate man to manage their business, that this organization really *does* pay them a fair and declared price for their milk, and even that the same organization can enable them to employ technical people who will really work for them to help them improve their milk production: veterinary doctors, green fodder specialists, and nutritionists. At the same time they find that, if they wish to market more milk this way, they can also get their processing plant expanded, they can hire people who will work to evolve and market products which give them a better return on their milk.

What does it do to their lives? They find that they are all "economic equals," that they can each take their turn, regardless of caste, when they line up to sell their milk -- and that milk of the same quality fetches the same price, that milk has an "objective value". They find that the remote and perhaps "citified" sciences can help them to use such very practical technologies as artificial insemination to improve their milk production. Thus, technical modernization enters into their lives *via* the new institutional structures that I mentioned earlier.

The industrial dimensions that I have mentioned are also essential to this technical modernization. The producers' processing plants become focal points for modern rural industries with which the producers identify, such as cattle feed plants, small-scale industries making milk-testing equipment, and containers for semen for artificial insemination. Thus, on the one hand, agricultural production becomes more viable through the modest and practical application of modern technology and at the same time more "industrial" jobs are created, both directly in the producers' own organizations and also in the burgeoning rural industrial infrastructure.

Moreover, once a given group of milk producers has an institution capable of making, say, milk powder then it is only natural for the producers to ask why they cannot process and market, say, their paddy in the same way. They find that the by-products of a modern rice mill can be used efficiently by their cattle feed plant. Perhaps they also find that their milk powder and their cereals can be combined into wholesome milk beverages, the marketing of which gives them a better return on both their milk and their cereals -- and which, I may add, certainly gives consumers of such beverages better value than they now get from such products.

Thus, a relatively simple programme for improving milk production, integrated with the provisions of the necessary processing and marketing facilities, can become a springboard for the technical modernization of the vast rural areas involved. Milk producers find that modern technologies can help them and that they can obtain the services of technical and

managerial people to enable them to apply these modern technologies to an increasing range of their agricultural produce. Moreover, the industrial infrastructure that supports this modernization provides an increasingly wide range of jobs within the region. This dairy development can set in motion the "technical modernization" of our rural areas, making life for our rural majority more productive and more satisfying, without the excessive urbanization which has engulfed the West and which we must avoid.

5. The social dimension

I have tried to show how technical modernization can be the "means" for improving the lives of our rural majority, but it is, of course, certainly not the "end". Such modernization is theoretically neutral in its social content. It is up to us to see that its impact on our people's lives is socially desirable. We have already found that the institutional structure, if properly built, can provide its rural participants -- in our case, milk producers -- with an experience that shows them how they can set up organizations wherein socially disadvantaged people get a fair deal. Each participant finds that he can line up to sell milk, without any particular caste or community taking precedence -- and that this institution can be the means of achieving other kinds of change in all walks of life.

The milk producers' society, for example, can accumulate funds for the village to build a road which connects it to the route followed by the milk truck. It can help fund the building of a primary school, a domestic water supply, or even a clinic or library.

These can be said to be social extensions of the techno-economics of a modernizing agricultural industry. Such extensions are, however, much wider in their implication: for example, if a poor producer observes that you get a better calf if you give better food to a pregnant cow, even though she is dry, then that producer soon extends this experience to the idea that, if a human mother gets better food, she can produce a healthier baby. If a veterinary doctor can use modern medicines to cure milch animals, then it is even more logical to seek ways whereby doctors for humans can use modern medicines to keep our infants healthy. If artificial

insemination demonstrates that the reproductive process can be controlled so as to produce healthy calves when desired, it becomes more logical that human conception could be controlled when desired.

In other words, "technical modernization" does not proceed in isolation. In fact, it cannot proceed if it is confined to technical factors. It can proceed only as what we can call a process of "social modernization" also proceeds, whereby rural people find that they can increasingly command modern science and technology to achieve their social objectives.

6. Conclusion

I will conclude with a short summary.

I have tried to show briefly what I believe to be the larger dimensions of our dairy development. I started by pointing out that, to achieve this kind of change, an appropriate institutional structure has to be built up, one which is owned and controlled by the producers concerned and is sensitive to their needs. This institutional structure can identify and effect the techno-economic changes which must be made, in order to move from a low-productivity, high-margin traditional dairy structure to a modern one which enables milk production, processing and marketing to become increasingly competitive and efficient. This process of increasing the dairy sub-sector's productivity leads to a rational build-up of the industrial infrastructure, including not only processing and marketing facilities for milk and milk products, but also the industrial units required to produce the equipment and technical inputs of a modern dairy industry.

I went on to outline how this process of modernization really implies the beginning of the technical modernization of our vast milkshed areas -- and that this modernization is larger than one might think in two ways: namely, that although it may start through dairy development by handling milk and milk products, it can and should increasingly embrace the major crops of the producers concerned. This process of modernization cannot

merely demonstrate to producers the application of such techniques as artificial insemination, improved animal feeding, etc. On the contrary, it inevitably shows the producers that they can use modern science and technology to achieve the larger objectives of their own lives.

Thus, I concluded that the ultimate end of such developmental programmes is not the more or less mechanical modernization of the production of a given food, such as milk, but it is rather the beginning of the process whereby our rural majority can gain command over their future and build themselves a richer and more satisfying community.

I believe these are the dimensions of dairy development that our first Prime Minister saw when he came to open the first dairy at Anand. He was accompanied by his daughter, our present Prime Minister -- and I believe that she remembers it too, because she also has been insisting that we should multiply the Anand-Pattern, in order to involve the people of all our milksheds in their own development.

And, as I said when I started this talk, this is what Shri Lal Bahadur Shastri saw when he stayed at the village of Ajarpura. These are the dimensions of the job which the country is trying to achieve -- and I am happy to be able to take this fitting opportunity to record Shri Lal Bahadur Shastri's role in helping us to initiate this programme of development within our rural society.

National Investment and Finance Weekly
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NIF MAN OF THE YEAR AWARD ACCEPTANCE ADDRESS

I suppose that there are a few who would have the courage, when honoured as "Man of the Year," to say "Thank you very much for this honour. I agree that I deserve it" -- and then sit down. Frankly, however, I lack such courage -- and, if I were to speak purely personally today, I would have to say that I certainly do not deserve this honour.

On the contrary, there is only one standpoint from which I could accept it -- and that is the fact that I have, for over twenty-five years, enjoyed what must be considered an even greater honour: namely, that of being in the service of the small farmers, the landless labourers and resourceless widows, who are the majority of our country's rural milk producers. Therefore, I have accepted this honour as the representative of these small milk producers -- because they, surely, deserve recognition as the Man of *this* Year.

Indeed, if you live in Bombay, or Delhi, or Calcutta -- or as far away as Madras -- I need hardly tell you that this is the year of the small milk producer. You must all have noted how your supplies of fresh milk have improved -- by an extra three hundred thousand litres a day in Bombay alone. And how baby food, cheese, milk powder, ghee and butter -- how the supplies of these important products have improved; how their prices have stabilized -- and, in some cases, even declined of late.

To a large extent, these changes have come about because the programmes entrusted by the Government of India to the National Dairy Development Board and the Indian Dairy Corporation are beginning to succeed in helping the small milk producer in the efficient production and marketing of his milk. Of all these programmes, I suppose the programme popularly known as "Operation Flood" is the best known. Certainly, it is

the largest: the largest of its kind in the world, in fact. And Operation Flood is without doubt now making its impact.

Twenty-five years ago, we had one Anand-Pattern milk producers' cooperative which is now best known by its brand-name, "Amul". By the late 1960s, we had five of these Anand-Pattern milk cooperatives -- all of them in Gujarat, where the milk producers had come to place their full faith in this pattern of cooperation. Then the National Dairy Development Board was formed, under the aegis of the Government of India, and it promulgated Operation Flood, as part of the assignment given to it by Government to replicate the Anand-Pattern in all the milksheds of India. Subsequently, the Government of India formed the Indian Dairy Corporation as its financing and promoting body for such ventures in dairying -- and now, jointly, the Indian Dairy Corporation and the National Dairy Development Board are helping to get Operation Flood implemented.

During 1976, one new Anand-Pattern dairy will be commissioned every three months. Anand-Pattern milk producers' cooperatives are being established in the major milksheds of ten States. The milk producers -- especially the poor majority for whom milk production is the major source and sometimes the only source of livelihood -- are being helped to increase their milk production and, let us never forget, are thereby enabling people like you and me to improve our standard of living.

I must say that I do not think that we can be very self-congratulatory about this progress. After all, our rural poor have been with us for centuries and, since 1947, have been the responsibility of those in our country who are better-off. Moreover, the effectiveness of the Anand-Pattern, in helping poor rural milk producers to increase their milk production and to improve their income, has been well proved for years. Yet it is only now that, grudgingly -- and still far more slowly than is necessary -- the country is mounting a genuinely effective programme to reach out to such people as our poor rural milk producers, and to help them without discrimination against creed, caste or community. Only lately has the seriousness of this responsibility been recognized. Only now

are we, the privileged elite, admitting that we have for too long bowed to the power, the privilege -- and also the perquisites -- commanded by those who have a vested interest in the *status quo*.

It is still a fact, for example, that the majority of those who have even a little milk to sell, mortgage their milk for a year, even before it has been produced, for a petty loan at an extortionate interest rate. It is still a fact that private interests can manoeuvre against public policy when it comes to the formation of socially aware bodies, such as milk producers' cooperatives -- and that these vested interests often receive the covert support of the bureaucracy, in defiance and derogation of the national objectives which that bureaucracy is supposed to serve.

These are unpalatable facts -- and perhaps you would have preferred it had I not mentioned them on this happy occasion, when you have invited me here, Sir, to honour me. But, I hope you will agree that this is a fitting occasion for us all to acknowledge that now is the time for the “System” to change. The small farmer is the backbone of our country: the longest-suffering, hardest-working provider of our food. I suppose for the first time in our history, he is coming into his own. He has for a long time been aware of his responsibility to the community -- and now, he is becoming aware of the community's responsibility to *him*.

Surely, we must welcome this change. It is good for our society that we should recognize the value of honest labour and productivity. It is good for our social health that every time we eat a decent meal we should not have to hide the fact that there are millions who would reach out for only a morsel of what we consume in one meal without thought.

Yes, Mr. Chairman, it is in this sense, I feel, that it is good -- indeed, it is to me heart-warming -- that your honouring me today is really a recognition of the small, rural milk producer as the Man of the Year -- and, in the sense that I can be said to represent the small milk producer, I acknowledge this honour with true and humble gratitude.

Thank you.

The University of Agricultural Sciences

Bangalore, Karnataka
January 13, 1977

Convocation address

Mr. Chancellor, Mr. Pro-Chancellor, Mr. Vice-Chancellor, distinguished guests, graduates of the year, ladies and gentlemen.

You have done me a great honour today, by inviting me to address this distinguished audience -- especially on an occasion of such importance to the graduates who receive their degrees today. The University of Agricultural Sciences, Bangalore, has a high reputation -- and deservedly so. This occasion has given me an opportunity to bring myself up-to-date on the development of your excellent University. I congratulate all those responsible -- as I also congratulate the graduates of the year, on this auspicious day. All those responsible: the Chancellor, the Pro-Chancellor, the Vice-Chancellor, the Board of Regents, the Faculty -- and the students themselves -- all those responsible must, I am sure, derive great satisfaction from the rapid development, and from the continuing stream of achievements, of this great agricultural university.

The achievements of this university -- and of course those of our other agricultural universities -- are indeed great. Thanks to these achievements, our country now has in its hands the essential tools for agricultural advancement. Our laboratories, our breeding stations, all our research and teaching facilities -- and, especially, the scientists and graduates who man them -- constitute a powerful instrument for the continuing, scientific development of our agriculture. Each week one reads of a new scientific breakthrough in the agricultural sciences. Some are produced with fanfare, some are produced quietly, with modesty. They all ensure that our progress in the agricultural sciences will continue.

More such advances are needed, no doubt. The tasks which face the nation's agriculture in the coming decade are great. More fundamental research, as well as applied research, will be needed. But I

think we need have no doubt that our scientific institutions, like this one, will provide the agricultural research and teaching which are so vital to the nation's progress.

Not being a graduate in the agricultural or animal sciences, I can only acknowledge the importance of the work that is being done in those fields. But while that work is fundamental to our agriculture's continuing progress, there is another part of our agricultural foundation which is equally important -- and on which I am perhaps more qualified to speak. I refer to the country's institutional structure for agricultural development. No doubt, we have mastered the agricultural sciences. But we have not yet developed the institutional structure needed to bring the benefits of agricultural science to the rural majority, who are poor cultivators. The institutional structure for agricultural development is still inadequate to the country's needs -- and therefore it must change.

Institutional structures inevitably must change. They adapt themselves to the society's developing needs. Unfortunately, as is the case in our country, this institutional change often lags behind the people's needs. Ultimately, of course, the required changes do take place -- and such changes are, at last, taking place in our institutional structure for agricultural development -- but far too slowly and in far too few places.

There are three aspects, in particular, of the present institutional structure that I would like to talk about briefly today. First, there is the dominance of the city, which continues to frustrate the aspirations of our rural majority. Next, there are the resultant adverse terms of trade between the cities and the rural areas, between industry and agriculture; these adverse terms of trade deprive our rural people of a fair return from the fruits of their labours. And lastly, there is the organizational structure of agriculture, which has so far developed bureaucratically, from the top, down -- rather than from the village, up; this structure does not know the farmer and is therefore unable to respond to his needs and to guard his interests.

I would like to elaborate a little more on these three aspects of the present institutional structure for agricultural development.

When I speak of the "dominance of the city," I refer to the very real benefits which we city people have acquired for ourselves: housing, roads, drainage, electricity, cinemas, restaurants and hotels. Then there is industry which is mostly located in and around the cities. In industry, workers have organized themselves and extracted for themselves annual increments; revision of grades every three to five years; dearness allowance, linked to the cost of living index; bonus; gratuity. Many laws have been passed -- the Payment of Wages Act, the Factory Act, the Industrial Disputes Act, and the like. But what have the farmers got? Most of our farmers -- especially the majority who are small farmers -- are protected neither from the elements nor from the traders and money-lenders. Most agricultural labourers have no trade union to protect them. Even our educational system is largely urban; institutions of higher learning, especially, are located in the cities and are largely monopolized by city people. Few of our rural poor have access to effective medical care. In other words, welfare has been constructed by city people for their own benefit -- and the farmers have been largely left to fend for themselves.

No wonder then, when we look at the "terms of trade," whereby our farmers exchange the fruits of their labours for goods and services from the city -- no wonder those terms of trade are so adverse for the farmer. We city people, who hold the levers of power, make very sure that we gear the terms of trade in our favour. When we note with pleasure that, say, the price of rice has declined, how often do we think of the impact which that decline has on the rural producer? If the truth be told, a decline in the price of a commodity like rice benefits urban consumers -- one-fifth of our population -- at the cost of large numbers of rural producers. What is the "price of rice" to us, is the "level of income" for the paddy producer. Yet it is people like you and me, sitting in the cities, who have secured for ourselves the power and the privilege of determining what should be the price of all major agricultural products.

This was all very understandable, no doubt, in the days of the British Raj when a low price for cotton in India meant cheap cloth for British urban workers. But after thirty years of freedom, are not the textile mills still exploiting our farmers? The essential bias of the system has not really changed, even though the British left a considerable number of years ago. And the terms of trade will remain adverse for the farmer until the institutional structure changes -- until the cotton producer owns the textile mill.

This is why the organizational structure for agricultural development must change. After all, the majority of our people are rural people. They are the people who suffer as a result of the city's domination and who are victims of the urban bias in the terms of trade. In the face of this exploitation, the rural people are increasingly seeking an organizational structure that will release them from the middleman's grip and give them their fair share of the consumer's Rupee -- which will, in short, restore the balance in our society.

I would like to elaborate a little on the organizational structure which is now beginning to emerge -- and to how it contributes to our agricultural development. Some of the organizations with which I am directly connected are examples. A simple thing like a dairy cooperative, for example, these days embraces *every* village in a district. It is not there in order to get cheap milk for city people. It is there to ensure that the farmer gets a fair price; and that the consumer gets high quality milk. No longer can the so-called contractor wait until the flush season comes -- and then force the farmer into a contract to sell his milk at distress prices.

Equally important is the fact that the cooperative not only buys the producer's milk -- it also markets to the producer the inputs that he needs to modernize his milk production: balanced cattle feed concentrates, green-fodder seeds, artificial insemination services and veterinary care.

The marketing of these inputs to the producers is no ordinary transaction. It cannot be done by citified technocrats who condescend to make something available to the villages if and when it suits them. It

cannot be done by some Class Three bureaucrat, who is sitting in a block development office waiting for his promotion to the district headquarters. It can best be done by qualified professionals, who are committed to the farmer's interests and dedicated to serving his needs. And the truth is that the farmer gets the services of such dedicated professionals only when he, the farmer, controls the organization which employs them.

When that happens, the whole "feel" of the organization is quite different. It is not just a matter of an impersonal organization chart. It is a matter of personal commitment. I am thinking, for example, of people like the director of one of the divisions of the National Dairy Development Board. Headed, as it has been so far, by a man who has been employed and paid by farmers for the last twenty-five years -- the National Dairy Development Board is designed to be a farmers' organization -- and it is staffed by men who have served the farmers for many years, like the divisional director I am talking about. One day, I summoned this director to my office. Frankly, I had in mind to bring to his attention what I considered to have been a lapse on his part. But when he came into my office, I could see that he was a deeply disturbed man -- so I asked him what was the matter. He told me that one of the farms which his division manages had just lost its paddy crop, because of unseasonable rains. It meant the loss of Rs. 100,000. It was not his loss; it was the Dairy Board's loss. Nevertheless, there were tears in his eyes when he told me that he had been unable to save that crop. For him, it was a like a personal loss.

And it is the same with a dairy cooperative's veterinary doctor. If he cannot save a poor producer's buffalo, he feels that loss as keenly as if it were his own. Why? Because he identifies himself and his interest with that of the producer. The producer's loss is his loss -- and of course, the producer's gain is his gain, and his satisfaction.

That is what I mean by personal commitment. This is what is being created in the new organizational structure for agriculture which is now beginning to emerge.

This is the aspect that is significant for me when I think of our great agricultural projects. The first Operation Flood, for example, will absorb some two million farmers into this new organizational structure. Operation Flood II, which is now on the anvil, will involve at least three million. And, to take an example very close to where we are today, we can consider the World Bank-financed dairy project in Karnataka itself. To some people, this great dairy project is just a matter of money: a matter of lots of lovely dollars -- coming from what they may think of, perhaps, as a not very lovely institution!. But to me, the money in itself is not important. Just think what will happen if Karnataka is successful in that project: hundreds of thousands of poor producers will be benefited. Many of them are people whose only productive asset is one or two cows or buffaloes. Yesterday, they had nothing to look forward to. Even today, they have virtually nothing. Tomorrow, they will have a small but steady income -- and the sense of self-respect that accompanies the ability to support one's family. And they will have the services of committed professional veterinary doctors to look after the health of their animals, of agronomists to help them improve their fodder production, of technicians and managers to run their dairy -- all of whom will be the producers' own employees.

It has to be remembered: these producers' organizations can quickly grow and acquire a highly professional staff. In each of a district's eight hundred or one thousand villages, there is the producers' own cooperative society, through which the producers in that village look after their own milk business. Then there is the district milk producers' union, which is owned by the village milk cooperatives, through which the producers own and operate their own dairy plant, cattle-feed plant, veterinary-care system, artificial insemination system -- and through which they get extension services and advice on fodder production.

When there are a number of cooperative unions like this, they can join each other, to form a cooperative federation. This can give the producers access to the best of marketing techniques and thereby further strengthen the system.

Think what this means in Karnataka, where the World Bank-financed dairy project is enabling no less than four district milk producers' cooperative unions to be set up -- which I hope and believe will make all the benefits of the Anand-Pattern available to half-a-million milk producers in as many as 3,000 villages.

Dimensions of social and economic change are involved that are wider and deeper than dairying alone. For example, every village cooperative has its own, elected managing committee and chairman. Through this elective process, the producers learn to choose leaders wisely -- and those who are chosen learn to lead wisely, with honesty, diligence and a practical concern for the producers' interest.

In other words, these are the kind of democratic institutions that underpin a genuine democracy. They are the colleges from which our future rural democratic leadership will emerge. Surely this is why the Prime Minister has urged that the structure, including the bureaucracy, must be rural oriented. Surely this is what the Prime Minister means when she says, "We must put the instruments of development into the hands of the people". This is why the institutional structure I am talking about is being promoted from the highest level in the country. And this is why we can be sure, as sure as night follows day, that the time is ending when the farmer could be exploited with impunity.

I chose to discuss this matter today because the changes of which I am speaking have a great significance to the graduates of the year -- and, indeed, they have a great significance for this university. You see, if the structure is right, then everything else will fall into place: the agricultural research that is done will be the research that the farmer needs to improve his income; the teaching that is done will provide the learning that the undergraduate needs, in order that he will be able to serve the farmers and to make a professional contribution to our agricultural development -- and, when he graduates, there will be a farmers' organization for him to join, in which he, as a professional, will be able to apply in practice what he had learned in theory at the university. In order that this will be so, the institutional structure has to be "all of the piece".

It cannot be run for the urban citizens' benefit. It cannot be dedicated to the maintenance of adverse terms of trade for the farmer. It cannot be organized to provide cushy city jobs for urbanites. Instead, the institutional structure is adapting itself, so that it will provide precisely the kind of working environment the graduates of the year, who are here today, need so that they can make the skills which they have acquired here useful to our farmers.

Now, I realize that this may not sound as attractive to you as it does to me. I remember, when I first went to Anand -- it was in the hinterland of the then Greater Bombay State -- I frankly thought that fate had been very unkind to me. There I was, an engineering graduate -- a foreign-returned in fact! And I had been buried in this tiny, rural place, where the government in its wisdom had thought fit to post me. I was very much an urban person in those days -- how else would I have acquired my education. Then, even more than now, the cities were the places where you got an education and where you looked for a job.

Anyway there I was busily trying to get out of Anand, maneuvering for another posting! And I almost made it. I was just about to leave Anand when I was asked to join Amul -- that is, the Kaira District Cooperative Milk Producers' Union. It was then a very small organization with no professional management. I must confess that I did not find the prospect very attractive. But, luckily for me as it turned out, I had, in a moment of weakness, promised the Chairman of the cooperative union that I would stay at Anand to install some new equipment, which was vital for the cooperative dairy's success. So I stayed -- first for a few months, then for another year -- and then, well, I just stayed! In effect, I burned my bridges. My family thought I had lost my senses -- and I feared that they might be right, too.

Then I had, in effect, to re-educate myself. The farmers were my employers -- and I had to listen to them: I had to learn how to make my education useful to them. It took me some time to get used to the situation, I admit. But after some time I suddenly realized that I was enjoying myself. I enjoyed it when a farmer walked into my office,

uninvited, to tell me that the milk truck had been late to come to his village that morning -- or that he thought the milk price far too low! I enjoyed it when I met with my Board of Directors -- the elected representatives of the milk producers -- and, for example, persuaded them that our cooperative should make a very large investment in a milk powder plant, when no one had ever made milk powder commercially out of buffalo milk before.

In other words, the farmers trusted me -- and I found it good to work with them. This is the meaning of the Quiet Revolution which is slowly taking place in our institutional structure. This is the change which will have a profound and increasingly beneficial effect on the prospects facing the graduates of the year. It means the chance, for them, to do meaningful work -- and to join with the producers, getting satisfaction out of helping them to get a good return from the fruits of their labour -- and building a better life for all in our villages.

Of course, there is still opposition to such change -- from traditional rural vested interests, from some parts of the urban elite -- and, to my surprise, at several levels of the bureaucratic structure which now controls agricultural development and which does not consider a farmers' organization as competent to run something like a dairy, for example -- partly, perhaps, because they would like to run it themselves, I suspect. But the Prime Minister has called for rural orientation to be given to our bureaucracy and for the instruments of rural development to be put into the hands of the farmers. The Finance Minister also, at the last budget, tabled a significant paper on Integrated Rural Development -- and backed up the concept with an allocation of Rs. 150 million.

So the institutional structure is changing. The graduates of the year will, during their working careers, see these changes come about.

This is why I thought that the best thing I could do today would be to talk to you about this institutional change: at least, to tell you what it means to me. If I have been able to explain to even a few of you what the changes that are taking place now, mean to me -- and if even a few of you

are, as a result, influenced to try your hand at serving our country's poor rural producers -- if even a few of you take up the opportunities that now beckon you to our countryside -- then I shall feel that I have not done such a bad job today.

Thank you.

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Putting the instruments of rural development into the hands of the producers

Introduction

Whether or not a "food crisis" is looming before us, agricultural development is required in most countries, if only to ensure that the small rural cultivators -- the majority -- are able to participate in, to contribute to, and to benefit from their society's path to modernization. When they are a part of the mainstream of their country's development, the rural producers' productivity and creativity can become an asset to their society: a just relationship can be established between agriculture and industry, between the countryside and the city.

To ensure that the small rural cultivator participates in development, it is necessary to put the instruments of rural development into the hands of the producers. I recognize that this can appear to be a complex task, because simultaneous technical, social and economic changes are involved.

One way to obtain the required changes in the institutional structure is to break down the task and attempt it on a product-by-product basis. Thus, this note starts by briefly examining one agricultural development programme, based on a single agricultural product: milk. The programme is often popularly referred to as "Operation Flood". After a brief summary of Operation Flood's evolution, this note examines the “Programme”: where it has been successful -- and, equally, where it has not. On the basis of this experience, a process is broadly defined whereby other such agricultural programmes could be formulated and implemented. No claim is made that different processes may not also be effective. The particular process discussed here is simply one that the writer has found reasonably effective, in his own practical experience. Some details of Operation Flood -- which are used here as examples of a

more generalized process -- are inevitably peculiar to India. However, there is no reason to believe that the elements of the process discussed are not adaptable to other countries' situations. The writer has eliminated most of the detailed qualifications which should be applied to many of the broad generalizations made. Your indulgence of this broad-brush approach is requested, it has been employed for the sake of brevity -- and perhaps, even, of clarity.

1. The evolution of a Programme: operation Flood

In 1943, the milk producers of Kaira District, India, struck against the exploitative prices that they received for their milk from a private, foreign monopoly procurement firm. They founded village cooperatives to procure and bulk sell their milk. Each village cooperative had an elected managing committee which set policy and employed a paid secretary as its chief executive and on whose advice the managing committee appointed paid staff: milk testers, clerks, etc. The village cooperatives federated themselves to form the Kaira District Cooperative Milk Producers' Union, Anand ("Amul"), which owned and operated a dairy plant, processed their milk and then marketed the milk and milk products thus produced. The chairmen of the union's constituent village cooperatives elected the union's board of directors and chairman, who set the union's policies and appointed its general manager, who as chief executive, was responsible for the union's operations.

The Anand Union grew rapidly during the 1950s. This development was attributed to its producer-members' cohesion, its strong and honest elected office bearers, its employment of professional managers and technical staff -- and to governmental policy support. During the period between 1955 and 1965, the Anand Union's major internal development was its increasing emphasis on provision of technical inputs to help the milk producers increase and modernize their milk production: veterinary care, balanced cattle feed concentrates, artificial insemination facilities -- all these were provided. The associated developmental and running costs for these services were paid out of the margins which the union earned on

the producers' milk through its use of modern technology and marketing methods, leaving enough for a small end-of-year supplementary payment which the village cooperatives distributed as a patronage "bonus" to their members.

Concurrently, the Anand Union's major external development was the role it played in helping milk producers in districts around Anand to set up milk cooperatives on the Anand-Pattern. The Union set up its own Projects Division to help design and build dairy processing plants and it acted as a pool of skilled manpower for the new Anand-Pattern Milk Unions, which numbered five by the year 1965.

In that year the then Prime Minister of India, the late Shri Lal Bahadur Shastri, determined that a body should be set up, with the Government's assistance (because the Anand milk producers could not be expected to pay for it), which would replicate the Anand-Pattern of Dairy Cooperative in all the milksheds of India. Thus, the National Dairy Development Board (the "NDDB") was formed, with the general manager of the original Anand Union (the author of this note) as its Honorary Chairman. In the late 1960s the NDDB built up its professional staff in order to enable it to provide dairy project design and implementation services. These services covered milk production, processing and marketing; farmers' organization; dairy plant design and construction; manpower development and management consultancy services.

By 1969 it became clear that there was much resistance to such institutional changes as were intrinsic to the Anand-Pattern of dairy cooperative. It also became clear that the funding for such projects would have to be integrated with project design and implementation. Thus, in 1969, NDDB formulated a dairy development programme that was designed to overcome these obstacles. This is the programme which came to be known popularly as "Operation Flood".

What the NDDB proposed in Operation Flood was the setting up of 18 Anand-Pattern dairy cooperative unions in the hinterland milksheds supplying India's four major cities: Bombay, Calcutta, Delhi and Madras.

Each of the 18 milkshed projects would provide for coordinated investment in milk producers' organizations, milk production, processing and marketing. Each structure thus erected would be handed over to the dairy farmers whose milk it handled, thereby putting this instrument of development into the hands of the rural producers concerned.

Concurrently, in the four major cities, the urban dairy plants' capacities were to be built up so that they could supply a commanding share of their demand market for milk. Initially, dairy commodities donated from abroad were to be recombined into liquid milk, to "prime the pump" in the urban milk markets -- and the funds so generated (Rs. 1,000 million, then equal to some US $ 127 million) were to provide the finances for the programme as a whole.

In 1970, the Government of India accepted this proposal. It set up the Indian Dairy Corporation (the "IDC"), a wholly government-owned corporation, to handle the donated commodities involved, the generation of funds, and their disbursement for the programme's purposes. In short, the IDC became a "finance and promotion house" for the country's dairy development. Its sister body, the NDDB, was a non-profit making Registered Society -- and it was, therefore, deemed to be debarred from conducting the more-or-less commercial transactions involved. Thus, the NDDB became the official technical expertise body for the IDC. Accordingly, it expanded its dairy development services to meet the needs of Operation Flood. To ensure the close degree of coordination that was essential, the IDC and the NDDB had a common chairman.

The Government of India also sought and obtained the support of the World Food Programme (WFP) to provide the programme with donated dairy commodities -- and of the Food and Agriculture Organization of the United Nations (FAO) and the United Nations Development Programme (UNDP), to provide the programme with some technical assistance. Thus, the programme was launched in mid-1970.

Although it has suffered delays, the Operation Flood programme is deemed generally to be successful -- a finding supported by the two

United Nations Inter-Agency Missions which have so far reviewed the Programme. By the end of 1976, 14 Anand-Pattern Milk Unions had been started under Operation Flood, with a total of 4,530 village milk cooperatives. In the four major cities, modern dairies had increased their combined throughputs from 910,000 litres to 1,470,000 litres daily. Operation Flood's objectives, *vis-à-vis* milk marketing in the four major cities, had always been stated as, "to enable the modern dairies to obtain a commanding share of their liquid milk markets." Considerable priority was given to this objective, because the relative weight of purchasing power in the four cities was such that the stability of the national marketing system depended considerably on avoidance of undue price and supply fluctuations in the dominant cities. It was also expected that adequate and stable supplies of economical, rural produced milk for the major cities would replace the less economical production of milk in and around the cities. The feed and milch animals involved would then be retained in the rural milksheds, thereby further enhancing the stability of the system -- and making it easier to increase rural milk production by improved breeding, feeding and management practices.

The results of Operation Flood to date indicate that these marketing concepts are proving to be correct. All the programme's physical targets are expected to be achieved by 1978-1979.

NDDB and IDC have built up a considerable expertise in the financing, designing and implementation of dairy development programmes. The NDDB's services are increasingly being sought by United Nations agencies (e.g. the IBRD and FAO) and bilaterally by individual countries. At home, the NDDB and IDC are gearing up to develop entirely new techniques and technologies. This is necessary if we are establish a modern dairy industry in India by the mid-1980s, by which time we will be among the largest dairying nations in the world. More important, NDDB and the IDC must ensure that the dairy industry will be adequate to the country's needs *vis-à-vis* the build-up of rural incomes and the provision of an adequate, nutritionally balanced and stable national diet. These national goals can reasonably be expected to be achieved in the mid-1980s.

The question before us now is: to what extent and in what ways does this experience provide a basis for the design and implementation of other agricultural development programmes? The rest of these pages are addressed to this question.

2. Difficulties encountered

It would not be practical to list here every difficulty that Operation Flood has encountered. In implementing such a large and complex programme, difficulties are as numerous as they are inevitable. Many of these are now abating -- but five major difficulties, which proved particularly important, are worth some discussion. These are briefly addressed below.

In this discussion, generalized terms are used: "Multiplying/Promoting Agency" is used to describe bodies like the Indian Dairy Corporation and the National Dairy Development Board "live lab" means an initial field project, designed to discover and then to demonstrate how to achieve a specific type of development; "operating units" is used to mean institutions like the Anand-Pattern dairy cooperatives, operating in the field, managing the procurement, processing and marketing of an agricultural product, which is the focus of an agricultural programme -- and providing assistance to producers in increasing production of the agricultural products concerned; a "Programme" is a coordinated set of investments and actions, including a number of "operating units," which is planned to achieve wide-spread modernization of the production, processing and marketing of a specified agricultural product.

The alliance of a modernizing urban elite with a traditional rural elite

A country's small urban elite consumes most of its educational investment, occupies most of the bureaucratic and industrial jobs -- and is interested in cheap food. The probably larger rural elite occupies most of

the positions of status in the villages, combines money-lending with a mercantile and speculative approach to marketing the output of poor, small producers (who constitute the majority) -- and depends on the bureaucracy for getting priority in the supply of fertilizer, irrigation water, cheap credit, and access to the other programmes ostensibly designed to reach the poor. Both elites -- urban and rural -- therefore have an interest in maintaining the *status quo* and preventing institutional changes such as the Anand-Pattern of dairy development.

Urban pricing

It follows that an urban elite will use its power, wherever possible, to control food prices in its favour. Urban dairy plants are treated as a public utility in India. They are usually owned by state or municipal governments and are run departmentally. Their managements are not insulated from local political pressures. Their main pricing policy has therefore been price suppression, even at the cost of stagnant production and reducing small milk producers' incomes.

The underprivileged inheritance

Most of India's milk is produced by small producers: landless cultivators, widows and farmers with less than two hectares of land. They have little protection from exploitation by the local power-holders, who are skilled at manipulating and dividing the poor. Exploitation is not only a contemporary practice. It is a way of life, one that both the exploiters and the exploited pass on from generation to generation. To unite, to form a village cooperative, to stand up against exploitation, to refuse to sell milk to the village boss or money lender ... all such actions require self-confidence, the essential asset of which the underprivileged are deprived by their inheritance.

The development assistance technocracy

The West largely controlled technological development until the 1940s. The multilateral and bilateral agencies, which are responsible for developmental assistance, were mostly set up after World War II and they inherited Western pre-war attitudes of imperialism and paternalism. They developed the tradition of "he who pays the piper calls the tune." Their technocracies distrusted Operation Flood because it was planned and designed by Indians for Indians to implement -- and there were no means of covertly controlling it from Western capital cities.

The developed countries' grip on resources

Most "developed" countries regard food aid as a means of surplus disposal. Operation Flood required regular shipments of donated dairy commodities of good quality, while the food aid (or food disposal) system is inherently unstable and sometimes dispenses time-expired commodities. Traditional commercial exporters of dairy commodities resist the underdeveloped countries' attempts to achieve self-sufficiency and feel free to double or triple prices of their exports at will. Dairy equipment exporters tend to act similarly and in concert, which makes financial control difficult, especially if they have good relations with developmental assistance agencies.

These in brief, have been the major difficulties encountered in implementing Operation Flood. Their results were, no doubt, compounded by our own errors.

3. Errors made

Ordinary human error is unavoidable. Neither we nor our helpers avoided them: for example, one of the developmental assistance agencies involved mislaid one of our early indents for equipment -- and we, on our part, had failed to install an early warning system to detect such errors. But these apart, the important errors are those of principle -- of which three in particular merit examination. They are discussed briefly below.

Recombination and technology

The Plan of Operations for Operation Flood envisaged a rapid re-balancing and expansion of the four major cities' modern dairies, so that they could rapidly acquire the capacity to recombine large quantities of dairy commodities into liquid milk. Procurement, installation and commissioning of these expanded processing facilities all took longer than anticipated, except in Madras where -- by accident -- the NDDB did the whole job on a turn-key basis. Probably, we should have persuaded the authorities concerned to let us deal with the job on a "crash" basis.

Divided responsibility

In the case of some of the urban dairy expansions discussed above -- and in other parts of the programme -- we accepted the suggestion that government departments do some parts of a job, while we would do others: for example that the local public works would handle civil works while the NDDB managed the mechanical. In practice, this approach created operational and administrative difficulties.

A new vested interest

Early in the Operation Flood programme's implementation, we became increasingly aware of the dangers involved in divided responsibilities. We therefore advised state governments, which did not yet have a full-fledged dairy cooperative structure, to set up state dairy development corporations, which would act as unified implementation agencies for the state's part of Operation Flood. Once brought into being, however, such a corporation has an interest in not handing over completed projects to the farmers. Thus, in these cases, we helped to create a new vested interest.

4. Some reasons for the relative success of the Programme

Considering the difficulties encountered and the errors made -- only a few of which have been spelt out above -- it is surprising that the

programme has proved to have been relatively successful. Some of the many reasons why this has been so are discussed below.

Political and administrative leaderships

From its inception, Operation Flood received strong support at the highest levels of the Government of India, from the concerned state governments and from their administrators. This made complex inter-ministerial cooperation possible. It also nullified the tinkering, meddling and petty corruption which often endangers programmes at the lower levels of the political and administrative structures. It enabled the Project Authority to firmly adhere to the policies laid down, without having to implement the programme as a popularity contest.

The existence of a model live lab

The fact that the Kaira District Cooperative Milk Producers' Union and its sister Anand-Pattern dairy cooperatives actually existed at the start of the programme was an invaluable aid. The Anand-Pattern cooperatives provided much of the NDDB's initial supply of skilled, motivated manpower. They acted as a demonstration to milk producers from other milksheds. They acted as a live lab in which new ideas could be tested. They could do this because they were already doing a fine job procuring, processing and marketing large quantities of milk. Their technical system involved fat testing each producers' milk for quality and making payment for milk -- usually within 12 hours -- on the basis of tested quality. This system's viability was assured by the institutional structure, which provided for feedback on performance at each level: the farmer-member, his village cooperative's managing committee, the district cooperative union's board of directors and the union's professional staff.

Initial knowledge of relevant skills

Thus, from the start the Indian Dairy Corporation and NDDB had access to a pool of professional practitioners already possessing the key

skills. From the arts involved in urban retailing to the nuances of our small rural producers' "back yard" milk production practices, there were always one or more professional practitioners available whose knowledge provided the basis for implementation and for producing more such men.

Personalities among the international technocracy

Despite the remoteness of their headquarters from reality and the nearly unfathomable intricacies of their bureaucracies, the programme was blessed initially when it entered the in-trays of a few outstanding personalities in the technocracies of the developmental assistance agencies concerned. Thanks to these men, in both the United Nations system and in the often maligned European Economic Community (EEC) system, the programme received strong international support -- both moral and material -- plus the services of a professional, committed eight-man FAO-UNDP Team. The complexities of the United Nation's bureaucracy are widely acknowledged. However, the very fact that the Operation Flood proposal did enter the in-trays of several distinguished leaders in the UN system raises a question: perhaps a bureaucracy should finally be judged by whether, ultimately, the right piece of paper does cross the right man's desk.

Exceptions made by developed countries

The take-off of Operation Flood was helped by several developed countries' exceptional actions: the EEC changed its systems to ensure that we received fresh milk powder; stainless steel exporting countries gave our indents some priority in the face of incipient shortages -- and milk powder exporting countries decided not to oppose the programme in the WFP and FAO, although they feared that it might ultimately enable India to do without milk powder imports.

Committed young professionals

The NDDB was able to build up its services -- in engineering, veterinary care and farmers' organization particularly -- because it was

able to recruit large batches (20 to 50 at one time) of fresh Indian graduates of high calibre and commitment. Much of the NDDB's senior officers' time was spent initially in selecting and inducting these young people -- and they have repaid that investment a hundred-fold.

A strong market and a market-oriented programme

There is a very strong, age-old demand in India for the product selected as the vehicle for the programme: liquid milk. Moreover, the design of the programme itself recognized a significant market demand factor: namely, that the modernizing dairy industry had to gain command over the major urban demand centres, if ever it was to stabilize its marketing systems. Hence the choice of the four major cities where three per cent of our population accounted for six per cent of consumer expenditure on milk and milk products.

A national multiplier institution

The programme was designed by India's National Dairy Development Board, which then played a major role in moving it through the national and international bureaucracies involved -- and, subsequently, in helping to get it implemented. The fact that the NDDB existed, that the Board included Indian dairy practitioners and scientists of proven experience -- and that the programme was based on these men's field experience *plus* their experience between 1965 and 1970 when, as Board Members, they had been unable to get the Anand-Pattern dairy cooperative structure replicated in the face of opposing, entrenched Interests ... all these considerations are reasons for NDDB's importance as a multiplier institution with experience prior to the programme's start-up.

5. Constructing a programme: conditions for success

The process of agricultural development causes significant economic and social change. It therefore encounters resistance from those with an interest in maintaining the *status quo*. Although there may

be many other difficulties, it is the inevitable resistance to change that specifies the conditions necessary for the success of an agricultural development programme. On the basis of the experience gained from Operation Flood, we can suggest four main conditions for success in construction of an agricultural development programme.

Clarity of national priorities

Every society has its own priorities and, with luck, its system of government gives them expression. Operation Flood, for example, reflected the priority to be given to erecting an institutional infrastructure for agricultural development which would enable our rural poor to increase their productivity and incomes, while contributing to provision of an adequate, nutritionally balanced and stable national diet.

Governmental support to programme leadership

After Operation Flood was designed, five Secretaries to the Government of India sat down with the programme leadership and hammered out the details of operation and the meshing of implementation with the governmental machinery. The programme then went to the Cabinet and was approved. Thus, governmental support for the programme and its leadership was established at the inception, along with procedures for effectuating that support.

Large-scale technical inputs

Inputs such as large dams and irrigation systems, fertilizer factories and the like, are part of a country's developmental investment and they must be created -- at least to the extent that they are needed and the country's resources permit. They do not, however, "develop agriculture" in themselves. They can only facilitate certain kinds of agricultural development, if properly managed. No doubt, for each country, at each stage of its development, there is some minimal level of such investment required -- and, to that extent, the existence of large-scale technical

inputs is a necessary condition for the success of related programmes of agricultural development.

A superior techno-economic system

A specific agricultural development must be based on a producer-to-consumer system that delivers better quality and value for money than the system which it is to replace. Otherwise, it will neither give the producer a better return nor the consumer better value -- and it will not be accepted by either. This applies when producers are also consumers of the product in question. Even before Operation Flood, the modernizing dairy system in India was known to be able to improve small producers' returns on high quality milk and to be able to deliver that milk to consumers more economically and hygienically than the traditional system.

A complementary demand

The techno-economics of a specific programme for agricultural development must be matched by a complementary demand. That is to say, the cost-price relationships of the systems to be developed must be such that the change envisaged will deliver the output with qualities and at values that are consistent with effective demand. The demand may be from producers who are also consumers, or from non-producers who are near-neighbours to producers or who are more distant urbanites -- including those in other countries, if exports are envisaged. Operation Flood's output targets, for example, were consistent with projection of effective consumer demands for milk and milk products in India.

In addition to these four conditions necessary for an agricultural development programme's success, there are of course certain sufficient conditions. Two of these are discussed below.

Skills and funds are sufficient conditions

Of course, a programme must have available to it the skills and funds needed for its implementation. If not enough are available -- especially at the start -- either may be imported. However, given the will, both can be generated indigenously over time. Operation Flood generated its own funds, for example -- but did this largely by recombination of donated dairy commodities until each dairy could become viable. The programme was implemented by using indigenously available skills, carefully applying a small amount of imported expertise to accelerate further development of these skills and -- especially -- to help develop, in advance, the skills and techniques needed in each successive round of the programme's expansion. In other words, imported funds and skills can be helpful to start with, provided their use leads to economic viability and indigenous development of the skills required. But skills and funds, as such, can always be found; it is simply that a programme's size must be proportionate to their availability and the speed with which more of them can be generated.

6. Constructing a programme: choosing a starting point

There does not appear to be any simple set of rules for determining the starting point of an agricultural development programme. In Operation Flood, the modernizing dairy industry was an obvious starting point because experience had already shown that it could fulfill the necessary conditions. But the choice is seldom so simple. Eight considerations that appear to be most relevant to the choice of a starting point are discussed briefly below.

Why staple cereals may come last

For the major staple cereals -- rice and wheat -- there does not appear to be a modernizing producer-to-consumer system that fulfills the criteria discussed under "necessary conditions" above. Intensive, green revolution technology increases production per hectare, but not necessarily the quality or value to consumers. Modernized storage and

milling may increase edible out-turn, but not value to consumers per unit of money paid. Also, by definition, the dominant role of a staple cereal in a country's economy means that huge quantities of capital or draconian control measures would be needed to replace the traditional post-harvest institutional structure. For all these reasons the complete, modernizing development of the major staple cereals may come last.

Why generalized "agricultural" programmes are difficult

Although the area development concept can be a useful umbrella, particularly in the command area of a dam for example, it is difficult to plan and administer modernizing producer-to-consumer systems for all of an area's crops at once. Whether public, cooperative or private, the organization(s) involved become too unwieldy to maintain enterprising service relations with the producers.

The relationship of demand to the techno-economic system

Agricultural development is such that its benefits usually accrue to society over a long period of time. A programme's output targets must therefore be consistent with broad projections of demand for agriculturally produced food and fibre over the same period of time. Export demand may also be important, if the modernizing techno-economic system has a comparative advantage over comparable systems in other consuming countries.

The nature of wanted demand

It follows that when choosing a producer-to-consumer system as the starting point in an agricultural development programme, there should be reason to believe that the system's techno-economics will continue, over time, to be consistent with producers' and consumers' expectations regarding incomes and prices. Export-led demand involves the danger that one's comparative advantage will be negated by importing countries' import controls or home subsidies -- although an exception to this caveat may be "specialty" export markets: for example, a combination of spices

into a special curry powder and sold into a sophisticated market abroad, which is too small to affect the importing country's balance of payments and too specialized to be substituted by other sources of supply.

Area specificity

A country or region may, of course, plan the modernization of the production of a commodity in many ecologies at once -- but it appears to be desirable to organize such change on an area-specific basis. Then, the implementors and the farmers in each concerned organization can get to know each other and can concentrate on the production system suited to that particular ecology.

One product at a time

Human organization being what it is, there may actually be at least one maxim which is almost a rule: that is, in a given area, it is best to start with one product -- one producer-to-consumer system -- at a time. Others may later be taken on by the institutional structure thus created -- and then preferably hived off.

Multi-product national programmes

None of the above contraindicates a country's simultaneously undertaking a number of area-specific, produce-by-produce programmes. It indicates only that, though interdependent, each programme needs sufficient organizational independence for efficient implementation.

Some examples

Hopefully, the generality of these observations on choosing a starting point can best be mitigated by giving some specific Indian examples. In selected ecologies of India, groundnuts may be a starting point, because the present production system is outdated, the marketing system is clearly grossly exploitative -- and demand for groundnut oil has

long-term strength. Cotton is another example, if only because traditional mill owners use the existing marketing system for mercantile margin-taking, instead of improving income-price relationships. Other examples may include certain pulses and analogues made from them. In each country, "agricultural development" must ultimately be comprised of development of modernizing production, processing and marketing systems, which are specific to each agricultural product produced.

7. Constructing a programme: stocking the cafeteria

Considering the national priorities involved, decisiveness is necessary in mounting an agricultural development programme. Preparatory elaboration does not justify postponement of action. Based on a comparison of the opportunities for developing the production of different agricultural products versus the national priorities involved *vis-à-vis* the need for increased production of each product, it need not be very difficult for the responsible decision-makers in each country to decide which agricultural product(s) to start with. Once that is decided, there may of course be many ways to construct an agricultural development programme. One action-oriented approach is described immediately below.

Generating the model live lab

Usually, a model live lab requires the skills and funds necessary to design and activate a farmers' organization and a producer-to-consumer system for the production, processing and marketing of a specific agricultural product. It is best to select an area, a product and a system which are sufficiently compatible, in order to plan a project that can become viable -- self-supporting -- in three to five years. The activity has to be institutionalized, so that the farmers involved can learn to control it, using professional management and scientifically-trained men to run it. The responsibility of the promoting agency is to see that inputs are provided on time, to monitor progress, to help apply any necessary mid-course corrections and to ensure the proper use of funds. The live lab is, of course, a process of learning 'on-the-job' for all concerned.

Preparing for multiplication

The promoting agency can also be responsible for multiplying the live lab into a programme, once the live lab has developed sufficiently to become a demonstration and a training ground. To be ready for this job of multiplication, the promoting agency has to train -- or get trained -- the people needed for work in farmers' organization, production, processing and marketing of the product in question. It has also to organize itself to appraise and adapt alternate technologies that can improve the producer-to-consumer system -- and to develop the communication and administrative arrangements which will be needed later in order to multiply the live lab into a programme.

Internal self-balancing for the programme

The programme has to be designed to become internally self-balancing as rapidly as possible. Individual personnel may fail to develop or may quit -- each man should always be developing two potential successors. Supplies and demands in different markets may rise and fall unpredictably -- provision must be made for transport and storage to even out such spatial imbalances between supply and demand. Farmers may -- rightly -- modify technical input packages. They should be given choices in the matter. The whole programme's funds flow must be adjustable to unplanned inflows and -- especially! -- shortfalls of funds.

Generating the wanted skills

Initially, a country may lack one or more of the skills needed to even set up the initial live lab. If so, people with relevant education may need training for the job overseas or they may need backing by some imported expertise. Ultimately, it may be necessary to establish an indigenous institution of education, training and research. But, in the early years caution is needed to avoid superficial academism which is divorced from practicality and from farmers' needs. In the early years, it is best if emphasis is clearly placed on developing the live lab's capacity for multiplying the needed skills by on-the-job training.

In summary, each programme can be focused on an agricultural product and a producer-to-consumer system designed to facilitate the modernization of the production, processing and marketing of the agricultural product in question. Each such programme can be started by setting up a live lab, to find out how to do the job on the required scale, while also setting up a promoting, or "multiplier agency" which, if necessary, will get the people trained for the live lab -- and which will later use the live lab for demonstration and training at the multiplication stage. By that time it should be able to use the experience acquired in the live lab to continuously improve the techno-economics of the producer-to-consumer system(s) used in the programme, devising and expanding a "cafeteria" of inputs for operating units to choose from, according to their needs and the resources available.

8. Initiating a programme

A live lab may, of course, be a failure, in which case one has to start afresh. But normally speaking there comes a time when the live lab is working well enough for multiplication to begin. The multiplier agency should then be ready to start getting it multiplied into a programme. The first programme will not necessarily be such as to entirely overcome the scarcity of a food or fibre: the problem may at this stage be too large or complex for that. But, within two to three years of a live lab's start-up, the time comes to abort or to multiply it -- otherwise, the live lab becomes a dilettante "experiment," removed from rural realities.

Letting customers choose

Precisely because the live lab will seldom generate all the answers, it is important that the experience gained be used to "stock the cafeteria". Then, those responsible for implementing the first round of multiplication can choose from the input technologies, methods and strategies that have been devised, in order to shape their part of the programme to their particular needs.

Transferring resources to farmers

Processing and marketing facilities, systems for veterinary care, extension, feed production ... all these work better when they are owned by farmers and operated by farmers' employees. But the farmers may not appreciate what is involved if the system is simply "given" to them. Nor may the state be able to afford such generosity. One answer is to let the farmers "buy out" the state's investment in the system, out of the margins earned on their produce. In the interim period, the promoting agency can hold the state's share of the system in trust for the farmers. This has the advantage that the state's initial investment can also serve as a revolving fund for further multiplication.

The live lab and the multiplier agency

It follows that the staff working with the farmers must be of the highest calibre and that increasing numbers of trained personnel will be needed in farmers' organization, production, processing and marketing. The sheer amount of on-the-job training to be done -- and its constant repetition -- may exhaust the live lab's personnel. Or this effort may render the live lab "untypical," thereby costing its real value. It is therefore the multiplier agency's prime responsibility to allocate on-the-job training among the programme's newly formed implementing units and to maintain the quality of personnel, despite the increased quantity that is required.

In summary, the experience of the live lab provides the basis for its multiplication into a number of operating units which comprise the initial programme. It also provides demonstration and training for these units' personnel and participating farmers. Feedback from the multiplication process is the basis for making mid-course corrections.

9. Monitoring the programme and applying mid-course corrections

Any programme -- and especially a cafeteria-based programme -- will need corrections as experience is built up and external circumstances change. Four kinds of action are involved: Information gathering; information array and analysis; the devising of improved strategies, methods and procedures; and feed-back to obtain improved performance. Most action-oriented people dislike making and reading reports. Most "field" workers dislike interventions from the "head office". And most head offices are remote -- geographically and practically -- from the field. Nonetheless, as monitoring and corrections are needed, provision has to be made accordingly. The measures outlined below can help.

National goals and a perspective view

Precise delineation of the national diet in, say, 2000 AD may not be useful. A broad perspective of how the national diet and consumption of agricultural fibres is likely to develop is needed. Used flexibly -- in conjunction with data on incomes, prices, non-food expenditures, and other economic data -- a perspective plan can be used to measure the consistency of a single programme with broader goals for the national diet, income distribution and development of the institutional infrastructure.

Professionalism and commitment

It is generally recognized that the quality of implementation depends on the calibre of the personnel responsible. Yet it is also true that institutions wax and wane in their standards of professionalism and commitment. Most institutions live on as vegetables long after brain death occurs. Talk of "management succession" and use of similar jargon seldom avoids such institutional vegetation. Every institution's board of management should periodically propose the institution's dissolution and reformation, to maintain the required standards of professionalism and commitment.

Subject to the quantitative "frame" provided by a perspective plan, and subject to there being adequate protection of the institution's

professionalism and commitment -- then monitoring and mid-course corrections can be applied as discussed below.

Information

Parameters for measuring performance and progress need to be agreed between those responsible for implementation and those responsible for monitoring it. An independent structure, whether internal or external, is needed to objectively gather, array and analyze performance and progress information. There should be regular -- but not over-frequent -- reviews of performance and progress, to recognize and record good work and to correct bad work.

Identifying improvements

At least three instruments can be used to identify improvements that can be made in the programme: first, the multiplier agency can organize a problem-oriented programme of applied research and development, in conjunction with continuing techno-economic and managerial analysis of the operating units that are being multiplied; second, as successive rounds of demonstration, on-the-job training, and other implementation activities are mounted, the experience of the operating units, as they try to improve their performance, can be fed into the multiplier agency's manpower development programmes; third, personnel can be rotated between implementation in the field, head office assignments, monitoring, applied research and development and manpower development. The number of personnel involved in the four activities of applied research and development, techno-economic and managerial analysis, manpower development and monitoring must be limited by the resources available and by the need to avoid a counter-productive bureaucracy. However, Operation Flood, for example, has benefited by provision of up to three per cent of project funds for these activities.

Obtaining change

Even when ways are identified whereby progress and performance can be improved, change itself is often difficult to obtain. Within the multiplication agency, rotation of personnel can help to obtain change. It may be more difficult to obtain change within the operating units in the field while they are being multiplied, especially as unduly centralized control of these units is impractical -- and such control as there is may be rather remote. Rather than seeking control, as such, it may be best to use informal visits, seminars, workshops and similar events -- and, if there is a demand, consultancy services -- as means of obtaining voluntary change. In the final analysis most implementors do want to improve their own performance and their organization’s progress.

To sum up briefly, then: monitoring and mid-course corrections can best be obtained by four sets of actions: first, using a flexible perspective plan to test the programme's consistency with overall national goals; second, maintaining a dynamic within the institutional structure to set and maintain satisfying standards of professionalism and commitment; third, organization within this framework of discreet units for monitoring performance and progress, for using applied research and development, and for continuing techno-economic and managerial analysis to identify ways of improving the programme; and, fourth, the use of informal meetings, staff rotation, manpower development programmes and consultancy services to obtain change and feed-back on the results of change. When the top management is no longer convinced that it can get these four sets of actions effectively carried out, then it is probably time for the board of management to recommend its own dissolution and the reformation of the institutional structure.

10. The final thrust

Although at first sight the tasks of agricultural development appear to be forbidding, they appear less so when they are broken down into a series of programmes, each based on a specific agricultural product. As each programme progresses, the time comes when light appears at the end of the tunnel, when the national goals involved are within one's grasp. Continual adaptation of the system, to incorporate technical advances and

to respond to new national aspirations, will always be needed. But the sense of running on a treadmill in the dark will no longer be there -- and that is the time to make the "final thrust."

Concretizing the perspective

Up to this time, such goals as, "nutritional adequacy," for example, will have seemed too distant to merit very much detailed work. But when they are within one's grasp, that is the time to harden up targets, to quantify the remaining inputs required and to eliminate the bottlenecks. This process can best be started by "concretizing the programme" focus, by allocating tasks accordingly, and by assuring the required funds flow.

Internal viability and external funding

The way that funds are made available for the final thrust depends largely on the fiscal and economic structure of the country. In India's mixed economy, Operation Flood has benefited from the principle that developmental investments will, as far as possible, be funded from the public exchequer. As operating units become viable and as the entire agriculture-food sector is modernized, it will be increasingly desirable that further investment in modernization and expansion of production, processing and marketing, should be supported by internally-generated funds, to help direct investment into programmes that will benefit both producers and consumers. In any case, funds from the public exchequer will be scarce for many years and they will be required for vast social investments, so it behooves each unit, as it becomes viable, to generate the further funds it may require.

Tightening the links between authority and responsibility

In many agricultural sub-sectors, a considerable number of operating units will be needed for production, processing and marketing. As these develop, so also will their awareness of their own interest in the pursuit of national goals and policies. At that stage, it is important to encourage each unit to make its own decisions on how it can best

contribute to progress. To help achieve this, the multiplier agency's first responsibility is to see that each unit receives timely information on production, prices, stocks and demand. Armed with such information, each unit's management can make the day-to-day decisions that are needed to ensure its unit's maximum contribution toward national goals.

The ascent from rural poverty

The inheritance of the underprivileged is such that, when the process of rural development starts, most poor cultivators find it hard to believe that the instruments of development are truly in their hands -- and, therefore, they find it harder still to decide how to use them. Moreover, many practical questions as to how the farmers' own organization should evolve are yet to be answered — and perhaps can only be answered when the farmers have more experience: for example, single commodity vs. multipurpose cooperatives; separate or joint water and electricity cooperatives; competing or linked consumer and producer cooperatives. On all such alternatives there will need to be a continuing dialogue with the farmers and a flexible response as experience is gained.

Nevertheless, when the time comes for the final thrust, the multiplier agency should already be there with the tools for innovation and improvement in its hands. The process of multiplying the operating units in the field is known. There is enough knowledge of the modernizing process to concretize the perspective with reasonable confidence. Healthy growth of operating units eases the burden of funds generation -- and, as the rural people ascend out of poverty, they become increasingly effective in using the instruments of development -- and in developing better instruments for themselves. That, presumably, is both the purpose and the ultimate achievement of the final thrust.

11. Institutions, rural modernization and humanism

One cannot tinker with one part of a system without changes taking place in other part of that system. When the production, processing and marketing of even one agricultural product is modernized, a more general

process of rural modernization is set in motion. Therefore, when we speak of "agricultural development," we are also speaking of "rural modernization:" We are asking people to change their way of life, to change the social fabric of village and homestead which, however deficiently, has enabled them to at least survive over many deprived centuries.

It is also true that the more an institution connected with agricultural development is centralized, the more remote it becomes from the rural cultivators whose lives it seeks to change. This, surely, is the weakness not only of national institutions, but also of regional and international institutions for agricultural development.

Inevitably, the Food and Agriculture Organization of the United Nations comes first to mind. It does excellent work in areas where internationalism is essential, such as in the devising of codes or standards. It has also been of inestimable help to Operation Flood in finding international specialists who are competent and dedicated. But suppose, at the time when the FAO was founded, it had started by stationing teams of mixed nationalities in every member country, to work for five years with the farmers of that country on a down-to-earth agricultural development project -- and then it had brought those people together to decide what and where FAO should be and should do. Would not the organization be very different from what it is to day? Would it not, in fact, be more like what its new Director General is now striving to make it?

Among other things, such an FAO would have placed more emphasis on helping people to learn to work with and for farmers and to plan agricultural development with the farmer -- up, and not from the FAO, down! It would have made its first priority the self-sufficiency of member countries in planning and implementing agricultural development, instead of perpetuating the endless "missions," "teams," and "task forces" which stream in and out of Rome, Washington and New York, all trying to do agricultural development by remote control.

The next round of efforts by the international developers, after building up the FAO, was the establishment of problem-oriented centres of high level research, such as the International Rice Research Institute (IRRI). It is widely accepted that these centres have done, and are doing, excellent work. But would not their impact have penetrated deeper and faster if, as each was formed, an equal effort had been put into developing their communications and building a system of co-working with the member countries' agricultural development institutions? Certainly, such matters are not always easy to arrange and the hospitality of "host countries" can indeed be prickly. But the point is worth emphasizing because it should be considered more carefully before any new "international," regional," or "apex" institutions are built, however remotely, upon the backs of the farmers they are supposed to help.

Since no traditional agriculture can be modernized without fundamental changes taking place in the societies that practise it, we must shape the institutional structure for agricultural development so that it develops in response to the farmers' expressed needs. For example, we have to remember that it is the young people in the villages and homesteads who are the farmers of tomorrow -- and they are already a part of the world culture. They are aware of the city and its amenities. They see the city not necessarily paved with gold ... but certainly as free of the barriers of custom, free of the burdens of clan and family, free -- not of poverty itself -- but of poverty's cursed inheritance, which as long as they stay at home demands that they accept the exploitation which for their fathers -- and for generations before them -- has been their way of life.

Freedom is the magnet of the city. This is the magnet which must be depolarized, if our young rural people -- and most especially the more enterprising among them -- are to stay on the land. And if they do not stay, not only will urbanization become socially intolerable, but rural modernization also will become socially infeasible, because the brightest and best will have been drawn to the city.

This is why it is so important that neither international, nor regional, nor national institutions, that are centralized by nature, should continue to impose alien forms upon our rural communities. Instead, we must seek to learn how to work with farmers in projects designed to help them choose and create their own vision of what the village's modernizing life styles and amenities should be.

Out of the acts of choice, consensus, creation and construction will come a modernizing rural leadership. The man who leads the move to line his village street gutters today ... the woman who leads the movement to cooperativize the village's milk business today ... that man and that woman are the leaders who tomorrow will tell us what research we should be doing, what education we should be providing for the young farmers of tomorrow -- what, in fact, they expect of us, the urbanites.

The next step, therefore, should be the start-up of a number of small, flexible live lab projects, in each country that is interested -- each based on a priority agricultural product and each designed to start the learning process afresh. Each of these projects should concentrate not only on technical change in the production, processing and marketing of the agricultural product on which it is based -- but also on how the farmers want to organize themselves to obtain the technical, social and economic changes they desire: changes in the infrastructure for agricultural development -- and in health, education and environmental sanitation, for example. Until we knew more about that, it behooves us not to create more jobs for ourselves in centralized institutions, located in places where the amenities for health, education and sanitation are as *we* like them to be.

XIV Dairy Industry Conference

Bangalore
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Approach To India's Dairy Development -- Perspective 1985

Shri G.V.K. Rao, distinguished guests, members of the Indian Dairy Association -- and all participants in this, our Fourteenth Dairy Industry Conference -- I am privileged to have this opportunity to speak on this auspicious occasion for our industry.

I am sure you will have noted, as I have, that the theme of this Dairy Industry Conference has a familiar ring to it. It was at the Seventh Dairy Industry Conference, in January, 1970, that we discussed the "Perspective 1980. Now, we are to discuss "Perspective 1985."

The world is the same. As I stand here, I have the feeling that many of the faces are same too. Even, the speakers are the same!

Shall we also conclude, by the end of this conference, that the *problems* have also not changed ? ... I hope not.

At the Seventh Dairy Industry Conference, as many of us here today will recollect, we discussed altogether 19 topics, including such important areas as "Selection and Breeding," "Feeds and Fodder," "Animal Husbandry and Management" -- and even "Extension and Cooperation". Has the situation changed in these areas since we discussed them so earnestly in Baroda in 1970?

At that time, we were starting the first Operation Flood, which was formally launched on July 1st, 1970. On July the 1st this year, Operation Flood II, I hope, will be launched. In the intervening period, some significant changes have no doubt taken place:

In our four largest metropolitan cities, the modern dairies have doubled their daily throughputs to a total of some 1.7 million litres. In Bombay, modern dairies have an estimated 73percent of their market -- and even in Delhi, the modern dairies share of the market has risen to 44percent.

Behind this achievement, there now stands a total daily installed capacity of 3.85 million litres in our rural feeder balancing dairy plants, compared with only 740,000 litres capacity in early 1970. As a result, production of milk powder and related products rose from an estimated 22,000 tons in 1969 to 45,000 tons in 1976.

Many of these feeder-balancing plants are already owned and operated by the milk producers' cooperative unions. Fifteen of these unions have been formed under Operation Flood -- and 10 more have been formed in additional projects with World Bank funds.

The number of milk producers' village cooperative societies -- that is, the village milk producers' cooperatives which we believe to be genuine -- has risen to some 6,000.

Approximately one million milk producers are members of these Cooperatives -- and we believe that an almost equal number of additional milk producers' families participate, even though they are not members. Thus, between one and two million families are increasing their incomes through the operations of our dairy cooperatives.

What all this adds up to is that a firm foundation has been laid for the modernization of our dairy industry -- and this is more important than any figures which we cite on the subject. Now that this foundation is in place, we can logically tackle the task of building the superstructure, so to speak, of a modern dairy industry that will be capable of satisfying national requirements for milk and milk products, while also raising the level of living for many of the country's majority who depend on agriculture for their livelihood.

But before considering the future in more detail, I believe that we can usefully look back at the past, to see if we can learn from some of our failures; and to see if we can learn how to avoid repeating these failures.

The failures which I refer to fall into three major groups. The first of these groups relates to urban milk marketing. In this area, under the first Operation Flood, our major failures related to the building up of the Mother Dairies which were to be established in the four major cities. There was a three-year delay in the approval of the Mother Dairy concept. This delay meant that we were not able to give rural milk producers as much direct access to the cities' lucrative and milk-hungry markets as rapidly as we had hoped when we launched Operation Flood in 1970.

Although the Mother Dairies are now built in Bombay, Calcutta, Delhi and Madras, it is only in Delhi that the bulk-vending system has been installed on a significant scale -- and this system is, of course, the last and vital link in the chain between the Mother Dairy and the most significant portion of the urban populations concerned. While other forms of distribution have an important part to play, the bulk-vending system was always intended to serve the vast number of consumers for whom price is of paramount importance. Yet, in Bombay and Calcutta, the construction of this final link in the chain between the Mother Dairy and the poor consumer has barely been started.

Nor are the poorest consumers the only ones who have suffered. The aseptic, single-service packaging system which was to have been selected and put into operation during Operation Flood I has not yet been approved. This means that those consumers who are willing and able to pay for the convenience of aseptically-packed, long-life milk which they could buy from their local grocery shop have been deprived of the convenience offered by that product, which now cannot be made available to them until some time in the early 1980s.

It is this series of delays that have mainly contributed to the fact that the modernization of our liquid milk marketing has been slower than we had envisaged in 1970.

There have been similar delays in the build-up of the rural infrastructure that was envisaged under the first Operation Flood. In particular, the formation of rural milk producers' cooperative unions was extremely slow in the early years of the project. This has meant that, even though they have now been formed, many of the milk producers' unions have not had sufficient time, as yet, to build up their cadres of professional management and technical personnel.

Even today, I believe that there will be wide agreement when I say that many of our cooperative unions have a long way to go before they achieve the managerial and technical capabilities required.

This slow build-up of the cooperative unions' professional cadres meant, in turn, that the village cooperatives themselves came up more slowly than we originally hoped.

Thus, in the whole area of rural infrastructure, change has been far slower than anticipated. It is this lack of momentum that has caused the delays that have taken place in our milk production enhancement programmes. The village cooperative societies, which are the essential link with the producers themselves, were simply not all on the ground at the time when they were needed. This has meant that the cross-breeding programme, for example, has not progressed according to schedule; a number of cattle feed plants are seriously underutilized -- and in many milkshed districts, the producers' own veterinary care services have not developed the capability for coverage that was envisaged in 1970.

These delays in the establishment of an appropriate rural infrastructure are largely responsible for the fact that the full impact of our milk production enhancement programme is yet to be felt.

I have discussed briefly our failures with regard to urban liquid milk marketing, the development of rural infrastructure and the progress of our milk production enhancement programme. Although much has been achieved, no doubt, our failures indicate that we have made errors. I

believe that these errors stem mainly from the industry's weak institutional structure. These weaknesses of the institutional structure are now holding up our country's dairy development.

We know now, beyond any shadow of doubt, that where we have the will, we also have the *skill* -- to tackle the tasks which face our professional dairymen. One has to only look around this room today to see this -- especially if we remember that, for every participant here today from our industry, there are hundreds who had to stay at home to keep the dairy plants running, to maintain our procurement organizations -- and to see that milk and milk products continue to flow to our dairies' customers. These managerial and technical cadres represent a magnificent national asset -- I am sure you will agree with me that the existence of our highly competent professionals -- and, particularly, the existence of hundreds of young and highly motivated new entrants to our industry -- fully justify my statement that, if we have the will, we have the skill which is required to tackle the problems that face dairymen in India today.

Why then is it that we have failed to erect an institutional structure for our modern dairy industry that will enable our professional dairymen to get on with the job? Personally, I firmly believe there is no single answer to this question -- but there are several partial answers, at least, which all of us here are really well aware of, if we can face up to them.

First and foremost is the confusion between the making of dairy policy at national and state levels -- and the implementation of that policy, which in an industry such as dairying can only be done by professionals who are working in institutions that are appropriate to such tasks as milk production enhancement, processing and marketing. The prime example of what has turned out to be an inappropriate institution is the “dairy development corporation”. In saying this, I am criticizing myself -- rather than others. We originally encouraged the formation of dairy development corporations -- but we now know that these corporations have turned out to be the same bureaucracies that they were supposed to replace. A rose by any other name will smell as sweet...

Similarly, in the case of most of our urban dairy plants, even when they are not operated by a dairy development corporation, they are operated directly by government departments. With the best will in the world, it is not possible to operate any dairy plant as a part of a government department.

Moreover, even some of our cooperatives are as yet cooperatives in name only. Their policies are not made by elected representatives -- and many of those who are appointed to their boards have never put a hand to the plough -- far less milked a cow. They are subservient to the will of government and not to the will of their farmer members. No wonder the milk producers view these "cooperatives" with cynicism. They have been through all this before.

We have been through it before, also! I believe that almost all present here today know very well the inappropriateness of the bureaucratic structure, the immobility of the bureaucratized public corporations -- and the lack of connection between a bogus cooperative and the poor rural producer. Let us not, however, confuse such statements with that Indian recreation known as "IAS baiting." If I were merely wishing to indulge in that, I would hardly choose to do it when Shri G.V.K. Rao was sitting here beside me! Shri Rao was right here in Karnataka itself when the great changes that have taken place in Karnataka's dairy development actually started. He saw, after a visit to Anand, what happens when the instruments of dairy development are put into the farmers' own hands. Indeed, he was the prime mover and shaker in effecting that change and it was good that he was able to stay in this state, which is our host today, long enough to see what happens when the farmers are brought together, with competent technical and managerial personnel, to erect their own dairy industry.

When the Karnataka Cooperative Dairy Development Project was first mooted, many people said, "but, where is the milk?" Now these questioners can see where milk is: It is flowing into the cooperative dairy processing plants in Karnataka, many more of which are yet to be built --

and it is bringing increased incomes to thousands of poor rural milk producers' families in the State. It is good that Shri Rao was here to see how quickly such changes can take place. It is also good that Shri Rao can now be in Delhi, where he is playing a vital role in the Union Ministry of Agriculture and Irrigation to ensure that the instruments of dairy development can be put into the hands of the farmers in every major milkshed of this country.

Only very recently this change has started taking place on a massive scale. Because, in truth, the bureaucratization of our dairy development institutions was really only another example of the elite trying to "run the show." Every elite tries to do this -- and ours has been no exception.

Let me take my own case as an example. It is true that I am the elected chairman of a farmers' organization -- a precursor to a farmer-chairman, I hope -- but it is also true that I must be reckoned as one of this country's fortunate elite. Hopefully, my conduct as chairman of the Gujarat Cooperative Milk Marketing Federation is somewhat influenced by the fact that my Board is composed of elected representatives of the 500,000 milk producers who comprise the Federation's basic membership. It is a fact that these farmers' elected representatives comprise our Board which enables the organization to be autonomous, decision-oriented -- and sensitive to the farmers' needs. As chairman of that Board, I succeed only as long as I am equally sensitive to the farmers' needs. Thus, my position may be viewed as one illustration of how the elite can hope to introduce the farmer to technical, economic and social change -- and how we may put the instruments for obtaining this change into the farmers' own hands. *But*, when we do that, it means that we are handing over authority to what, in this country, is the majority -- and while we may say that is what democracy is all about, it is easier to pay lip service to that principle than it is to run the risk of carrying out that principle and thereby losing one's privileged position. This, no doubt, is why the elite in our dairy industry have *not* put the industry in the farmers' own hands. This is the change which, if we are to learn from our past errors, we must make during Operation Flood II.

I believe that you would agree that we have really no choice in this matter once we consider what is to be done in the coming decade.

The fundamental objective of Operation Flood II is to build on the foundation laid during Operation Flood I -- which is, quite simply, to complete the task of building a modern dairy industry that will be adequate to the country's needs and capable thereafter of self-reliant growth.

This means that all our major cities must have an effective connection to the modern dairy industry, so that urban consumers can obtain adequate supply of wholesome milk, which is available to them conveniently and economically.

Approximately one hundred and fifty cities are involved. To supply this massive urban market, which is dispersed throughout the length and breadth of the country, we have to complete the National Milk Grid so that it will ensure a stable supply of milk to all major urban centres, enabling the industry to even out seasonal and regional imbalances between the milk supply and demand.

A vital backup to the National Milk Grid will be the pooled buffer stock of conserved milk solids, which will have to be stored at strategic points and deployed as flexibly as required to make up for local shortfalls in supply -- and which will have to be so managed to ensure that necessary imports are meshed with indigenous supplies of conserved dairy products.

To satisfy the vast range and variety of urban markets that will be served, a variety of delivery systems will have to be brought into play. These will range from least-cost delivery systems, such as bulk-vending systems, to convenience-oriented systems, such as single-service containers for aseptically packed milk.

Altogether, if we are to satisfy the effective market demand for milk, some 15.3 million litres daily of urban milk supplies have to be envisaged -- and production has to rise to some 40 to 50 million tons annually. To achieve such an increase in production, a National Milch Herd of some 14 to 15 million improved milch animals will have to be bred by the mid-1980s. This, in turn, means that assistance for cross-breeding, veterinary care, frozen semen and for control of such diseases like Foot and Mouth will be needed in approximately one-third of the country's rural areas with the best milk production potential.

To achieve this, the eighteen new "Anands" established under Operation Flood I, will have to become the springboard for building an adequate infrastructure in approximately 150 Districts. How is such growth to be achieved? Clearly, the answer lies in federations of milk producers' unions which can become capable of supporting their own growth and managing their own services to producers.

We estimate that over twenty-five cooperative milk producers' *Federations* will be needed by 1985, each covering an average of six districts clustered around centrally located balancing facilities. In fact, we already refer to these federations as "cluster federations" -- and we believe that twenty-five of these federations can certainly be built up during Operation Flood II.

We have the skill to do it! Have we the will to do it? What is involved is nothing less than the dairy industry's elite putting authority over the tools of dairy development into the producers' own hands. Will our industry's elite do this? In other words, will *we* do it?

The National Commission on Agriculture recommended that it be done in 1972. The European Economic Community has insisted that Operation Flood II should develop this kind of institutional structure, if it is to receive the EEC's backing and assistance. Similarly, the World Bank has insisted, if Operation Flood II is to receive the $200 to 300 million equivalent of developmental loan funds which are believed to be needed from that institution.

The Government of India itself is equally insistent. The National Dairy Development Board and Indian Dairy Corporation will, therefore, be equally insistent.

Moreover, there is a strong movement to accept a farmer-oriented institutional structure in the states concerned. Already, several state governments have agreed that this is the way to tackle our dairy development -- in Uttar Pradesh, Punjab, Haryana, Rajasthan, Gujarat, Maharashtra and Bihar, state dairy development corporations are to be wound up and put into the hands of cluster federations. In a discussion which we have had with Government of Kerala, they also seem to be agreeable -- and we hope that we will have the opportunity to discuss the matter further with the Government of Andhra Pradesh -- and that they too will agree to the institutional structure which I have described as the cluster federation.

Thus, there is plenty of reason for optimism. An appropriate, producer-led institutional structure *can* be erected. But, for the cynical, I would be the first to agree that there is many a slip twixt the cup and lip. I believe that everyone here knows how much opposition there is to farmer-oriented institutional change. This opposition is rooted in the middle and lower levels of the bureaucracy, in the vast and powerful ramifications of the traditional dairy middleman structure, in the city cattle-keepers, as well as some privately-owned dairy companies -- and some of these vested interests may perhaps even try to use our association, the Indian Dairy Association, as a means of protecting their entrenched, elite positions. The temptation to manoeuvre and manipulate will still be there for many years, no doubt; there is always the fear of working oneself out of job; there is always reluctance to put true authority into the hands of a majority which may not accept the leadership of the elite.

But this is not relevant. On the contrary, the erection of an infrastructure based on the true representation of the country's majority can only serve to enable professional dairymen to be far more effective than has been possible in the past. Such an infrastructure can enable our

technical people to pull together rather than trying to pull each other apart -- and when there is unity between the milk producers and the professionals who serve them, then indeed we can expect to see technical people in government positions where *they* can make the decisions, both in Central Government and in the state governments.

So should we not all work together to achieve this aim? After all, our country *is* a nation of farmers. It is time that the farmers should come into their own. We dairymen exist -- and, indeed have been given our privileged access to the modern sciences of dairying -- wholly with a view to making our skills effectively available to those who need them -- and those who need them most are the poor milk producers of our country. Let us therefore work together to achieve this change.

By adopting this policy, we shall ultimately be seen to be the first of the country's agro-industries to recognize that a tide is beginning to flow: that there is no Canute to tell the farmers to turn back. Milk may be the first, but it is *only* first of our major commodities to be handled by the institutional structure that is the most logical structure for our nation of farmers. Already, we see our cotton industry developing the same way -- and soon we shall see that our oilseed and vegetable oil industry moves into the farmers' own hands.

Let us welcome this institutional transformation as a way of ensuring that our privileged skills will be put to the best use. It is always said that change is a painful experience, but it can also be a satisfying experience when one knows that one is part of a tide that is flowing towards national fulfillment. I hope that you share with me an eager desire to contribute to this change -- with all its momentous social and economic implications. I myself, for example, have for a long time felt a certain pride that, while being chairman of NDDB and IDC, I am also, and foremost, an elected and paid servant of the farmers. However, it is also my heartfelt desire that the next chairman of NDDB and IDC should not only be elected by the farmers, but also be *from the farmers.*

Thank you.

Indian Institute of Management

Ahmedabad
March 7, 1978

Dr. Vikram Sarabhai Memorial Lecture

MANAGING SOCIOECONOMIC CHANGE: THE ROLE OF PROFESSIONALS

Somewhere in the great beyond, which he knew so well, Dr. Vikram Sarabhai's spirit must be having a good chuckle at the sight of me addressing this august audience on such an ambitious subject as "Managing socioeconomic change: the role of professionals". Would that Dr. Sarabhai were still with us -- he would have done this job much better than I. But there was a strong reason for my accepting the honour of making this memorial address. It was not because I felt well equipped for the job -- but rather, it was because I owe a debt of honour to Dr. Sarabhai's memory and I want to repay it.

If it were not for Dr. Sarabhai, probably I would not be here today.

But first, allow me to tell you how I came to know Dr. Sarabhai -- not, perhaps as an intimate -- but in a way which taught me the true quality of the man. In the early 1960s, Dr. Sarabhai and I met to discuss the organization of rural television. He expressed his point of view. I expressed mine. In short, we disagreed -- and, what was worse, a little heat entered into the discussion; rather strong words were spoken -- perhaps a little stronger than either of us had intended -- and so we parted, our differences still unresolved. That night, quite late, my telephone rang. To my surprise, it was Dr. Sarabhai. He said, "Kurien, I've been thinking over what you said this afternoon -- and what I said, in reply. I feel badly about it. That's why I'm telephoning you. I'm sure, if we get together we can resolve our differences". So we did get together. We did resolve our differences.

And I learned something of Vikram Sarabhai's greatness...

Subsequently, we met a number of times, mainly to discuss rural television. Then I met Dr. Sarabhai, quite by chance, in Delhi. He asked me what brought me to that wicked city. I told him the sad truth: I had come to submit my resignation as the newly appointed chairman of the Indian Dairy Corporation. I explained that I had been asked -- or rather instructed -- to accept a Maharashtrian IAS Officer as the managing director of the corporation, since I was a Gujarati. I was not prepared to be the chairman of the corporation if I could not select the managing director -- hence my intention to resign.

Dr. Sarabhai would have none of it. How could I resign, he said -- and so on. My sense of outrage evaporated under Vikram's "treatment": his wonderful mixture of no-nonsense purposiveness, combined with an irrepressible sense of humour. It seemed no time at all before I met, along with Dr. Sarabhai, some powerful friends, to whom I explained the reason why I intended to resign. I was told to forget it: that no such pressure would be put on me.

Vikram's word could not be doubted -- and he assured me that my newly-won powerful friends were undoubtedly expressing the will of the Government of India. So I returned to Anand, still chairman of the Indian Dairy Corporation.

So far as I know, Dr. Vikram Sarabhai never told anybody that story -- and I have not told it publicly until today.

It came to my mind -- and I decided that I should tell it today -- when Dr. Samuel Paul, the Director of the Indian Institute of Management, Ahmedabad, kindly suggested to me the title of this address. I should be grateful to him for this, because I could think of no title which would be appropriate as a memorial to Dr. Sarabhai. And I decided to start this address with my personal experiences with Dr. Sarabhai, because they tell many things about his greatness -- and also because they illustrate the dilemma of the professional.

There I was, being told that I should accept an instruction -- in this case, to take a Maharashtrian managing director -- because I "was a Gujarati". Now, that really was a compliment in a way -- that I should have come to be so much accepted as a Gujarati. But, in that matter, I had before me the example of Mrs. Mrinalini Sarabhai, the gracious lady from the South, whose presence here today is an honour -- and to whom I would like also to pay tribute on this occasion. She showed the way as to how I should learn about, and respect, the culture of Gujarat, where I had settled to live and to work.

The dilemma of the professional

When I recounted the story of my near-resignation as chairman of the Indian Dairy Corporation, I said that this illustrated the "dilemma of the professional." By that, I meant: that the professional sets himself a certain course -- or has it set for him. Thereafter, he is impelled along the path to which he has committed himself. He cannot abandon that path and still call himself a professional.

For example, if you are employed by farmers as a professional, to manage their assets on their behalf, then you commit yourself to the farmers' interests. You know the goal: the farmer must come into his own. That is what you, as a professional, have accepted.

There is no doubt about this matter. To "profess" means to be committed to the mastery of a science, a system of thought -- to an "ethic," if you wish. A professional is one who keeps to that commitment -- he pursues the mastery of his subject all his life.

In modern society, all over the world, the role of the professional has perhaps never been more difficult than it is today. More than ever before the professional faces manipulators of power, those who prefer expediency and short-term profit, rather than hewing to principle. They fear change. They have a vested interest in the *status quo* -- so how can they be expected to pursue principles? Especially principles that lead to socioeconomic change for the benefit of the underprivileged. Yet these

are the very men with whom the professional must deal. They dominate the structure in which the professional must work. He is part of their system. That is the dilemma of the professional in "managing socioeconomic change".

But even the phrase "socioeconomic change" has pitfalls. What about technical change? Can it be that we prefer, these days, to talk about socioeconomic change because we distrust technology? Surely, for over a century, mankind has been caught up in the tide of technical change. This technical change is so far-reaching that it seems almost to have become the dictator of socioeconomic change. It is as if technology itself were some new deity.

Now, the humaneness of this new deity is being questioned. Do the benefits of modern technology justify its dreadful price? For it is a price that many communities pay in terms of social and economic deprivation.

Sometimes it appears that we have lost our optimistic belief that technology can be our servant. Instead, there seems to be a pessimistic fear that modern technology has become our master.

I believe that this is a form of running away. It is an unprofessional abdication of one's commitment to a mastery of one's subject. The dilemma of the professional includes the problem of how to apply technology to the needs of the community at large, against forces which would confine its benefits to their own narrow interest groups.

For example, our subcontinent could not support its more than 700 million inhabitants were it not for our advances in agriculture and industry. These advances are too slow. Their impact is too limited. But they are advances in modern technology -- and they are the life-support of our subcontinent's massive population. The professional's job is to ensure that we are the masters of this technical change -- and to see that this technical change serves the socioeconomic objectives of the community at large.

Professionals -- in India and elsewhere -- have not done this very well so far. In the nineteenth century, changes in agricultural technology accompanied urbanization -- and it seems that the social costs of urbanization were more acceptable then than they are now.

Today, this process of urbanization is seen as being socially self-defeating. Moreover, our own society's will -- or, some say, our bloody-minded determination -- to produce more people faster than we can produce more food, seems to be the result of a break-down between the objective knowledge that society possesses and the collective drive of the society at large. "We know," the argument runs, "that we should not multiply -- but multiply we shall." If that were really what our people were saying, perhaps we professionals could take some comfort from it. It would absolve us of responsibility. But, of course, it is not true. It is simply that we have failed to enable the society adequately to master modern technology -- to use modern technology for the promotion of that socioeconomic change which society needs. We professionals must accept our share of the responsibility for that failure.

Professionals and the elite

Consider, for example, the remoteness of our professional lives from our villages. There, in the village, each successive generation is born into the rigidity of caste; each generation must bear the rapacity of the money-lender and the merchant -- and, very often, the random cruelty of nature: floods, famines and pestilence.

And yet, the majority survive. And, these days, many of them build, they adapt their society -- and they become increasingly aware of their objectives. In this, they often seem to be more successful in mastering technical change than most of us are in the cities. In other words, there is in the villages some collective wisdom, for which the professional's knowledge is not a substitute.

This is why the divide between the professionals and the villages is so serious. If we do go to the villages, it is to "study" them, to do good for them -- but not to become *of* them.

We self-styled professionals have enjoyed a higher education, we have acquired at least the outward trappings of learning -- usually by some accident of birth or biography. This undeserved advantage gives us access to the decision-makers, to those who decide how the cake will be shared. In other words, we have joined the elite -- and the elite enjoys privilege unrelated to merit; its culture is therefore inward looking and defensive.

The whole apparatus that we have erected isolates us from the majority. Look at our towns and cities. Inevitably, there is the "new" Delhi, the "new" Ahmedabad -- and, indeed, the "new" Anand -- with well laid-out streets, shaded by trees -- in conformity with our best, twentieth century dedication to "ecology" -- and with all the regulations duly observed, as to the space required between each pucca dwelling.

That is where we live.

Outside this golden ghetto, we are only too aware of how the rest live: In seemingly endless mazes of tenements and shanties -- ill-drained, un-aired and overcrowded. No ecology there. Between the golden ghetto of the elite and the fetid slums of the majority, there is a thin, protective belt of "middle-classism". A bare minimum: just enough to convince the poor that they can escape the misery that urbanization has imposed on them.

No wonder the elite turns its face resolutely away from these realities. We concentrate on being fed and clothed increasingly well -- and the food which fills us, the fibre which clothes us, comes from where? From the villages, where farmers produce it for us -- in exchange for what?

The gap between our cities and our villages has been widening for many years. Yet we have acted as if this could go on for ever. But it

cannot go on for ever -- and the professionals should have been the first to say so. Instead, the professionals have preferred to join the elite, to enjoy the fruits of the elite, while the going is good.

A pessimistic view of the elite

The going is not likely to be good for very long. Looking on the dark side for a moment, let us consider the elite. It appears to consist of five groups :

The *bureaucrats*: jacks of all trades and masters of not one, except of the so-called administrative machinery that they themselves have erected.

The *politicians*: manipulators of words and images, so preoccupied with the maintenance of their power that they can spare no time to learn how to use it to the benefit of the community -- which explains why they depend on bureaucrats, to give the machinery of government an appearance of motion.

The *academicians*: those who gave up the process of learning long ago -- and who, therefore, have to spend their energies on deceiving successive generations of students into thinking that they are really "learning".

The *contact men* and the *industrialists*: the self-styled Captains of Industry, who pursue the gains of industrial production without the application of industriousness and productivity.

The *technocrats* and *management experts*: the mercenaries who varnish our feudal and mercantile businesses with superficially glossy layers of modern management's trappings and terminology.

Admittedly, this is a pessimistic view of our elite -- but, classify them as you will, that is how they usually appear to me. Moreover, each

of the five groups has a vested interest in its own survival -- and also in the survival of the others. Unless they stick together, they cannot retain their privileges. Yet, no one can profess to anything when he is committed only to the preservation of his own advantage. If we professionals have fallen into that trap, then we cannot serve as professionals until we climb out of it.

The exceptions: a cause for more optimism

Fortunately, no part of a dynamic society is wholly bad. In every walk of life, we know that there are good men, men who have not committed themselves to false gods. Moreover, for every famous name that comes to mind, we know that there are literally hundreds of unsung heroes, men and women who may be known only to their immediate friends and colleagues -- but who are remembered because they have retained their integrity and commitment.

The organizations which I have the privilege to head have developed only because of such exceptional men and women. The famous among them are names familiar to all of us.

The late Sardar Vallabhbhai Patel, who, as far back as the early 1940s, told the farmers of Kaira District, among others, that political independence alone would not serve their purpose -- that they had to have economic independence too.

Shri Tribuvandas Patel, an early follower of Sardar Patel, who accepted the mission which the Sardar entrusted to him: to go out and help the farmers to organize their own cooperatives -- and who gave up the promise of city life to do so.

And our late Prime Minister, Shri Lal Bahadur Shastri, who refused to be hemmed in and insulated from the rural majority -- and who, as a result, insisted that a central body be formed to replicate the cooperative

structure which has since then come to be known as the Anand-Pattern of Cooperation.

I name only these three today -- but I could tell you also of well-known men and women, including many professionals, whose commitment has been a key factor in enabling our organizations to advance, to the extent that they have advanced.

Institutional structure for technical and socioeconomic change: one example

How far have we advanced? Permit me to outline briefly the main characteristics of the institutions which I serve and which I know best. They are a modest example, at least, of how an instrument of technical and socioeconomic change can work to the benefit of the majority.

The most important of these institutions are popularly referred to as the Anand-Pattern cooperatives. They have four characteristics that are particularly relevant to us today:

> They are based on a painstakingly put together set of village cooperatives. Thus, in each village that is involved, the producers have come together and have selected, from among themselves, a set of leaders whose decisions they thereafter accept, whom they trust to protect the interests of the producer-membership as a whole.
>
> There may be in any district anything from 20 to almost a thousand village cooperatives -- all of which commit themselves to the collective membership in a union of cooperatives, through which they own such facilities as a dairy plant -- and, most importantly, through which they hire for themselves professionals: managers and technologists to run their dairy plant; veterinary doctors to look after their animals; and so on.

> Thus, this institutional structure serves as the vehicle to bring modern technology to the service of even the poorest rural producer who, thereby, gets into his own hands the instruments for technical and socioeconomic change.
>
> Lastly, an over-riding characteristic of these institutions is the fact that they are directed by the chosen representatives of the people who own them, the producers. The institution is, therefore, a dynamic and ever-changing structure for the exercise of self-determination by our rural people.

Like all institutions, this structure -- now known as Anand-Pattern cooperatives -- is never perfect. But I have dwelt on it particularly, because it does put committed professionals directly to the service of farmers. And this is not by any means wholly a matter of ideology. Ideology is there, of course -- but it is also a fact that the veterinary doctor who cannot cure animals, or who does not arrive on time when an animal dies -- is dismissed. The manager who cannot run a dairy plant is dismissed. Just as the producer who conducts a private milk business, "on the side," is ineligible to represent his fellow members! This means that there is a reciprocal acceptance of discipline, between the producers and the professionals -- and the professionals who accept that discipline are not "trapped": they can practice their profession truly.

"Success" breeds hostility

One or two Anand-Pattern cooperatives are not enough to bother the elite. But if such an instrument of change appears to be getting into the hands of millions of farmers -- that is a different matter!

When Shri Lal Bahadur Shastri saw the Anand-Pattern cooperatives at work in our villages, he committed the Government of India to its replication in all our milksheds. A central body was set up, the National Dairy Development Board. That was in 1965. And I can tell you that until

1970, the National Dairy Development Board was unable to set up a single Anand-Pattern cooperative!

In 1970, the Indian Dairy Corporation was formed, with *control over the resources required* -- and, jointly, the Indian Dairy Corporation, with the National Dairy Development Board, launched the programme popularly known as "Operation Flood". Under it, seventeen Anand-Pattern district unions and some five thousand Anand-Pattern village cooperatives have been established: that is, village cooperatives in approximately 1percent of our villages.

The replication of Anand-Pattern cooperatives encountered the hostility of the elite. Politicians, bureaucrats, academicians, contact men, industrialists, technocrats -- yes, and management experts -- many in each of these groups opposed formation of these cooperatives. They poured scorn on the idea that illiterate farmers could ever manage anything. They revolted from the idea that professionals should be hired employees of the farmers. In other words, their selfish interest in the *status quo* overrode their professed commitment.

Slowly, however, this opposition has been overcome. How? By the commitment of what was originally a small band of dedicated professionals -- and by the fact that a structure had been erected: a structure in which professionals could work with dignity, maintaining their professional integrity.

Urbanization: a part of the dilemma

Many professionals suffer because of the urban orientation of their education and their social experience. Many even fear that to turn to the countryside would be a backward step for them. Fear is a powerful diluent of commitment.

And commitment is required if one is to work for farmers. Villages are not idyllic havens. Poverty and repression do not always bring out the natural nobility of man. Many of our villages have narrowing societies; they are dominated by a set of elders who have little claim to positions of leadership, except the dubious qualification of age.

No wonder young people flee from the villages. They know that the streets of Ahmedabad are not paved with gold. Not for them, at least. It is what they are leaving -- not what they are coming to -- that drives them to the city.

In this sense, the parasitical nature of our urbanization is supported by the narrowness of village society, by the repression of the village gerontocracy. But these are the very reason why, for the next generation, both our rural and our urban societies must change. The flight from the villages must be stanched -- and the destructiveness of our urbanization must be reversed -- if the process of modernization is to have any socioeconomic meaning for the next generation. But whether this can be achieved depends, to a great extent, on whether the professionals resolve the conflict in their own stance on urban-rural relations.

The role of the professional

Problems arising out of our present urban-rural relationship must be the business of professionals. Solving these problems calls for management of technological and socioeconomic change. And, looking at these problems, one can see the main elements in the professional's role in solving them.

There is, of course, the conventional ethic of honesty and diligence. It is the necessary condition for success in all roles, but perhaps the

professional has the greatest need for it to be in-built within him, because he has to discipline himself.

In addition, the professional has five tasks, if he is to play his role in the management of change:

First and foremost, the professional must be true to his "science" and committed to the unending pursuit of a mastery of his subject: that is the *ethic of the professional.*

The professional has in his hands the instruments of change, the essential tools which society has to command, if it is to achieve the change which it requires. The professional, even though he commands these tools, must use them not for himself, but on behalf of the society at large. Managing on behalf of others: that we can call the *professional focus*.

The professional has to perceive -- and even anticipate -- the needs and aspirations of his constituency, gathering their diverse threads together and resolving any conflicts in them. The professional accepts the needs and aspirations of his constituency as the spur that drives him on, continuously seeking to improve his own performance. An internalized vision of our constituency's world, which lies outside ourselves: that we can call the *motivation of the professional*.

The professional has to be aware of the bureaucracy that he and his colleagues are forever building, allegedly to serve others, but always with the tendency to be self-serving. When he finds that he has erected his own bureaucracy, he has to tear it down and reform it. Rejecting the old and exposing himself to what is new: that we can call the *revolutionary role of the professional.*

Lastly, and in summary, the professional has to keep in his mind the difference between what he wants the world to be and what the world is, remembering that large endeavours are only the sum of many small parts. He deals with a kaleidoscope of policies, administrative practices, work

cultures, techniques and technologies. Through this kaleidoscope, the professional has to keep clear in his mind his perception of the social and economic impacts of the technologies that he commands. Only then can he give purpose to the majority's awareness of what constitutes desirable change: a perception of the real world that is neither romantic nor pessimistic. This we can call the *clarity of mind* which is the basis of professionalism.

These are five characteristics of the professional's role in management of change: the *ethic* of mastering one's subject; a *focus* on other's needs; an *internalization* of the exterior world one serves; *constructive iconoclasm* towards one's bureaucracy; and *clarity of mind* about the many seemingly small elements which make up great endeavours.

Conclusion

To some, what I have said about the role of the professional may sound like rather lofty words. To others, what I have said may seem to be only a repetition of what the professional will already have worked out for himself. In either case, I am keenly aware that none of my words can resolve the dilemma of the professional. That, each of us has to do for himself.

For the professional who tries to do so, there are some factors in his favour. For one thing, many of our farmers still retain their faith in the professional. They have not yet developed the cynicism that prevails in the city. So they are willing to give the sincere professional a good chance to prove himself.

The same cannot always be said of our urban elders, especially those who head the organizations in which the young professional must work. Many of these "leaders" are those who have embraced the attitudes -- and the fruits -- of the elite. When these are the men who are in charge,

how is the young professional to develop his standards and maintain his integrity?

There is no easy general answer to this question. But if we take the particular instance which I have touched on today, there is at least a partial answer. I have discussed the role of the professional in managing both technical and also socioeconomic change. I have tried to show why I see this role as being especially important in reversing the destructive aspects of our society's urban-rural relationships.

For the professional -- especially the young professional -- who commits himself to working for the farmer, the issues involved are clear. The majority of our people are rural and the majority of them are poor. It is time that the farmer comes into his own. The professional who commits himself to this objective can work for farmers -- and he will never go far wrong, he will never lack allies -- and he will always enjoy the deep satisfaction that comes from the trust reposed in him by the village people whom he serves. To the young professional especially, I say: "Serve the farmer -- and he will enable you to preserve your professionalism, because he respects it and because he values your integrity."

Thank you.

The Madras Management Association

Madras
April 7, 1978

Anantharamakrishnan Memorial Lecture
Fifth Business Leadership Award

The role of the elite in modernization of a predominantly rural society

The achievements of Shri Anantharamakrishnan, whose memory we honour today, are well known to all of us here. I will not try to recount those achievements. But the precepts which he followed, the standards which he set, the path which he chose -- all these are the highest examples of the self-imposed discipline-of-the-privileged which I propose to discuss with you today.

Shri Ananthramakrishnan was an exemplar of his time. It must also be said that perhaps our country has never needed such men more than it needs them today.

Shri Anantharamakrishnan — apparently acting on a finely-tuned intuition -- never forgot the values of our long-established culture. He seems always to have been aware of the contribution which our country's honourable past could make to an even finer future, when India would be a modernized society.

So, in remembering him today, it is appropriate that we should reconsider the tasks which face us in the modernization of our country, bearing in mind its predominantly rural make-up. I take it that this thought is uppermost, also, in the minds of many members of the Madras Management Association, which has done me the honour of giving me this award today. It has been but rarely that an employee of farmers, buried as he must be in the countryside, comes to the kindly notice of our distinguished leaders in business management -- a field which historically has been urban oriented.

So, I am honoured by this Award not so much in my own right, but rather on behalf of the one or two millions of farmers and milk producers, whose interests I try to represent in my capacity as Chairman of the National Dairy Development Board. A man who works for farmers is largely what they have enabled him to become -- and it is therefore on the farmers' behalf that I gladly and proudly accept this Award.

The elite

The Award is for Business Leadership. The farmers' organizations which I represent *have* become leading business organizations, no doubt, but you may wonder why, in such a context, I have used the phrase in my title, "the role of *the elite*". Well, I have used this phrase to express the view that most, if not all of us here today are a part of the elite.

In our country, especially, if one has had access to higher education, if one has the opportunity to exercise a skill or specialization, if one occupies a position of authority -- in all these cases, one is inextricably bound up with the elite. One may not agree with the elite. One may at times be in conflict with some part of the elite. But, in all these cases, one has to *deal* with the elite -- and, whether one likes it or not, one is a part of the elite.

When I was speaking in Ahmedabad a little while ago (to a very elite group, incidentally), I had occasion to describe the elite. I said then, "It appears to consist of five groups:

"The bureaucrats, jacks of all trades and masters of none, except of the so-called administrative machinery (which they themselves have erected).

"The politicians, manipulators of words and images, so pre-occupied with the maintenance of their power that they can spare no time to learn how to use it to the benefit of the community (which is why they depend on bureaucrats, to give the machinery of government an appearance of motion).

"The academicians, who gave up the process of learning long ago -- and who therefore have to spend their energies on deceiving successive generations of students into thinking that they are really learning.

"The contact men and the industrialists, the self-styled Masters of Industry, who pursue the gains of industrial production without the application of industriousness and productivity.

"The technocrats and Management Experts, who varnish our feudal and mercantile businesses with superficially glossy layers of modern management's trappings and terminology".

Now, it could at least be argued that this view of the elite is pessimistic, that it takes an unjustifiably grim view of the quality of our leadership. Nevertheless, there is too much truth in it for comfort -- and I believe that the time is drawing near, when either we must change our ways, or history will change them for us. Therefore, what I am suggesting here today is that it is time that we, the elite, reconsider our present role in society.

Admittedly, it is not an easy task that faces us. I do not think that any nation can be said wholly to have solved the problem of how to modernize a village society. It is not simply a problem of trying to retain all that is good in our villages: It is a problem of trying to retain what is good, while also getting rid of what is bad, to the extent that is possible.

And there *is* much that is bad, no doubt. Most villages are dominated by casteism. They are rigid in their customs. Their society is a narrowing one, in which the aged press heavily on the young -- and the depredations of poverty press very heavily on almost all.

Set against these disadvantages, there are the virtues of many village communities. They are socially self-supportive. Everyone knows everybody else and everyone feels that he has a place in the community. Their objectives are simple: they know what they want -- even if they

cannot get it. Perhaps much of this stems from the advantage of working on the land. If you work on the land, you literally reap the fruits of your own labour. You know what you are producing. You know what you are doing and why you are doing it. The land is tangible -- and, if nature is kind, at the end of your labours you reap a harvest to support your family.

Moreover, never before was working on the land more manifestly a significant activity. Because, never before has there been a greater need for more food, for a better diet for your people. In the cities, as well as in the countryside, the need is all too plainly to be seen.

Many of us in the cities often harp on how we want to do some work that is "significant". In the villages, the farmers *are* doing something that significant: they are providing food and fibre for all of us. Yet, the village is precisely the place from which the brightest of our young people are fleeing.

Frankly, I am not surprised that this should be so. There is much in the village for the young to flee from. But this is something which has to be changed -- and if that change is ever to start, it must be initiated by our country's elite. The most important task, which faces our elite today, is that of leading the drive to modernize our rural society.

Our future rural society

I suggest that the problem is not really the villages, as such: The heart of it lies in ourselves. We have known very well for many years what needs to be done, but we have not come to grips with doing it.

What needs to be done is fairly straight forward. Villages need adequate food, clothing, sanitation, health care and primary schooling. They need, in brief, to make the village environment one which is hospitable to man, one where children can grow up happily and healthily -- and develop themselves to the fullness of their potential.

Today, in modernizing India, this means that "I" want to feel that I am a part of a society which knows where it is going -- and where my children will have a part to play, a chance to contribute according to their ability. We cannot have a modernizing society unless this vision becomes true. Modern society is complex. It can create great benefits for all its members. But to obtain those benefits the society has to master many complex technologies. These technologies are the fruits of advanced science. To make use of them, a society has to make good use of all the intelligence its members possess -- and there is simply not enough intelligence and motivation, in any society, for a society to be able to afford to waste any of it. Yet, in our villages, we are wasting most of the intelligence and motivation available because the majority is denied access to education, and thereby access to the whole system which identifies individual abilities and develops them to the full.

It makes no sense that the very people who are producing the things that we need most should get the least benefit from society. I refer, of course, to the farmers and the agricultural labourers who produce the food we all must eat and the fibre we need to clothe us. They are producing what our society needs -- food and fibre, which are needed in ever increasing quantities. Yet, their rewards are the least: not only their financial rewards, but even the "recognition" or the "status" that they are accorded, if you wish. And, along with the rest, the children of the innovators in our villages -- the brightest of the young -- are confined to systems of education and upbringing that give them the least chance of developing their potential to the full.

This is illogical. Especially when we consider that the greatest good for the greatest number would be created if we could not only produce *enough* food and fibre, but also if we could produce it with increasing *economy*. But this calls for more innovation, right in the village and, therefore, for the fullest development of the brightest of the young in the villages.

This means that the process of modernization should enable our villages to become more productive, for their own good and for the good

of society at large. Yet the elite has not come to grips with the task of increasing the village's productivity. It is not, for example, simply a task of "providing jobs." Allow me to illustrate. Suppose we received a lot of foreign aid and this enabled us to take, say, 30 million families in which all, including the head of household, are unemployed or grossly under-employed. Suppose we could use the money given to us to create "jobs": 3 million (10 percent) to be politicians and social workers; 6 million (20 percent) to be domestic servants and peons of the politicians and social workers thus created; 9 million (30 percent) to be Lower Division Clerks -- "administrators" -- who would "run" the programme within Government; and the remaining 12 million to be "extension workers," telling the farmers how to produce the extra food and fibre needed by the lucky 30 million beneficiaries of the programme.

In such a programme, 30 million "jobs" would be "created" -- but not even the extension workers would actually be *producing* anything. Such programmes are the result of "development" from the top, *down.*

Clearly this approach will neither create a society which is more productive, nor enable people to live a life that is more satisfying. Yet it is also true that, even if we wanted to, we could not remove unemployment by creation of conventional "industrial" jobs; we simply cannot create enough of such jobs to enable the unemployed and under-employed to become productive. Therefore, it is equally clear that if we really want to modernize our society, we can do it only if we find ways of enabling people to become more productive in the village itself.

Making the changes that are needed

I said earlier that the problem is not really in the villages as such, but that it lies within ourselves. By that I meant that we all have known, for a long time, what needs to be done in a predominantly rural society. We know that more *gobar* gas plants are needed, more roads, more primary schools, more dispensaries. And we have a pool of educated young men and women who are capable of creating these things. But

when we come to a specific village, a specific block, a specific district, then we cannot *prescribe* everything that is needed there. These matters cannot simply be decided at the top and then pushed down into the villages. When we try to do that -- whether from New Delhi, or Bombay, or from Calcutta or Madras -- we usually get it wrong.

To get it right, we have to go to the villages and the people who live there. They know what they need. They know their priorities. They know their resources -- and God knows the country has all too few resources considering the difficulties that face us. But to apply those resources wisely, inventively, in ways that best suit each particular village's situation ... to do that, we must rely on the village's own intimate knowledge of its resources, its problems and its priorities.

What is needed, therefore, is a structure that enables the people themselves to decide what is needed. A structure that puts tools into the people's hands, allowing them to create what they need.

The problem of our elite in achieving this is, simply, that we are so distant from the village -- so distant that we cannot make our knowledge and skills available and useful to the village.

This is particularly true with regard to material things. Poverty is based on a lack of material things. It may lead to hatred, divisiveness, meanness of the soul -- but it starts with a lack of things. To label a concentration on *things* as "materialism" will not make the problem go away. We have to recognize that most of our people quite simply do need food, clothing, housing and clean water to drink. If that is materialism, then so be it.

The elite commands -- indeed, it monopolizes -- the skills and modern science that can make these *things* available to our people. That is, if we ever decide to get down to the job.

Because I have worked on such matters for more than 25 years, I know that when villages are given genuine access to a system, one that

puts the tools of modernization into their hands, then they know what to do. Moreover, they know how to choose the people who will get the job done: get it done sensibly, honestly and diligently. They choose people, from among themselves, on that basis.

I can assure you, for example, that a village milk producers' cooperative is not run on the basis of caste or community. Here I am, for example, an elected chairman of five hundred thousand Gujarati milk producers -- and I am from Kerala. Why do the farmers take such a man to their heart? Presumably because they trust him.

The Kaira District Cooperative Milk Producers' Union -- which you probably know as AMUL -- has 831 village milk producers' cooperatives. Every one of them has an elected managing committee. You do not find that the chairman of the committee is there because he is a Brahmin, or a Patel, or whatever. You do not find that he is there because he speaks this language or that. You do not find that he is there because he comes from one faction or another. He is there because the village has decided that he is the best man to do the job and they trust him to do it well.

Frankly, the imperatives of caste and community, the sharing out of status among elders -- in other words, the rituals of our power structure -- are left to the *panchayat*, to the election of MLAs and MPs. The more distant the objective from the village's own reality, the more the village is willing to let the elite "play its games" -- and to share out its tawdry spoils on the basis of its own rather meaningless pecking order.

For the village, first things come first. The closer to the village the objective, the more effectively does the village act. But, to get that quality of action, the structure for decision-making must be in the village's own hands.

The example of Erode

And this is happening right here in Tamil Nadu -- at Erode, for example. Many of you must have seen how the people of Erode are forming their own milk cooperatives and managing them very well: 139 of them so far. And these village cooperatives are affiliating themselves into the Erode District Milk Producers' Union.

Now the managing committee of each village cooperative is chosen by the milk producers themselves -- and those representatives of the milk producers choose the directors of their union *from among themselves*. In other words, the structure of village cooperatives is a structure in which the producers themselves make their own decisions.

Why do they have a union? A union means that all the villages, collectively, agree that the interest of the majority is paramount: that the interest of the majority may override the particular interest of an individual village. Yet the villages join in such a union. Why? Because through the strength of their union they are able, collectively, to obtain access to the instruments of modernization, instruments that our present system denies to them as individuals.

For example, through the union they are able to employ professionals. The dairy, which they own through their union, is managed by a professional. The union employs skilled veterinary doctors who visit the villages regularly every week -- and who are available around the clock for emergency calls. The farmers can see that these professionals are really working for them. In other words, they can see that their union is an organization which brings modern science to serve them. The result is a *more productive system*.

All this is done under the direction of the rural producers themselves. Policies are set by managing committees and boards of directors chosen by farmers from among themselves. Moreover, in the next stage of our dairy cooperative growth, the cooperative unions are joining together to form federations so that they can operate a shared marketing programme and employ more professional marketers to ensure that they get the best returns possible for their products.

The role of the elite

Surely that is what we mean when we speak about "putting the tools of modern science into the hands of our farmers." The people of Erode do not have to be *told* that they need better veterinary services or artificial insemination for their cows. What they need is *access* to these tools of modern science, access to a structure through which they can employ the managers, the scientists, the engineers and the technicians who are needed to operate the system. In Erode, this is what is happening.

But it was not easy to achieve. It was not easy to achieve *not* because of difficulties *in the villages,* but because it was opposed by the *concerned elite.*

As soon as the elite saw what a powerful combination it would be if professionals and farmers were really to join hands, they brought every available weapon to bear against the formation of that cooperative structure. The bureaucrats threw their so-called administrative machinery into reverse gear. The politicians mouthed meaningless slogans, distracting the rural community from their true interest. The academicians wanted no part of this battle with the reality of rural poverty. The industrialists opposed the idea that farmers should come to know that they could own and operate their own factory. The technocrats and management experts wanted no part of such a project which would require something deeper than the superficial trappings and terminology of modern "management methods". So they all fought the Erode concept: they delayed it for 18 months.

It is a good example of how our elite works -- or a base example of how our elite does not work. This is the hard reality that we, the elite, have to face: we are trapped in a system of our own making -- and when good things do not happen in our villages, it is because of our own actions within this system.

We have to climb out of this trap:

We have to stop looking at our role in society as a means of hanging on to the material rewards ourselves -- and hoping to keep the rest of society quiet by giving them bread and circuses.

We have to stop treating the responsibility of "leadership" as if it consisted only of shouting slogans about peripheral issues -- such as language, community, regionalism and what have you. Shouting slogans about these things can, at the most, only serve to distract a deprived majority from its true needs in the short run.

We have to stop building cities as citadels, with golden ghettos in which to house ourselves, carefully surrounded by a thin layer of middle-class housing, as a buffer between ourselves and the poverty of the majority outside.

Perhaps, above all, we have to stop using our positions in the elite simply as a means of supporting each other's self-interest. At present, the politicians let the administrators have their way, because they depend on them to keep the show running. The administrators let the politicians give the impression that they are running the show, as long as they do not threaten the security of the administrative services. The academicians let the politicians and the administrators do as they will, as long as they do not demand too much in the way of results from research and teaching. "You scratch my back and I'll scratch yours" is not a principle on which any culture can survive.

Moreover, a culture which attempts to survive on this basis can only bring about its own destruction. We are not living in Imperial India today. We cannot maintain our privilege by fawning on our masters -- and then quietly attribute all our ills to alien rules. They are, after all, no longer alien. We are all part of the same nation -- and even the farmers now know this. They know that a decent life, and even a good livelihood, is within their reach. They know that we, the elite, are already enjoying it.

The question is only whether the farmers will wait for us to reach out to them to enable them to share in the benefits of modernization -- or whether they will become impatient and seize those benefits themselves.

I hope and believe that the elite will not much longer grudge the rural majority what is due to it. And I see reason for my hope. I see hope particularly in the upcoming generation of educated young people -- many of them represented here today, no doubt. I see hope in the increasing awareness that many ordinary working people have -- in the cities and in the villages: awareness of the fact that the cities and the villages have mutual interests. Awareness that the cities need what the villages are producing and that the villages need the skills that at present are largely confined to the cities. Also there is a slowly growing appreciation of what is meant by such words as "tradition" and "culture" -- there is a deeper appreciation of what these things mean in our modernizing society, of what they can contribute to our society. So there is good reason to hope that change will come, and that our elite will play its proper role in that change.

Yet it is true that we all resist change. We are each in our own groove. In our heart of hearts, we know that there is need to make many changes -- but we would rather leave things as they are and let the next generation do it.

Still we cannot keep passing the buck from one generation to the next. This has gone on too long. There has to come a point in time when it stops -- and I believe that the time has come.

Hard though it is to change, we should welcome this as an opportunity: a chance to prove that we have more to offer than we have shown so far. Because the very difficulties of change present challenges and opportunities to all of us who enjoy the privilege of power, the advantage of education. Change requires hard thinking and hard work. It has to be thought out with great care and conducted with great skill and intelligence. To last, each successive round of change has to provide the vital stepping stone to the *next* round of change and that, by my

observation, is not easy to achieve. It calls for all the skills that we can muster.

We have all those skills. We have the knowledge, the understanding. I personally do not believe we are so ignorant of what life is like in our villages. But most of us, I fear, have yet to come to grips with the *meaning* of many of the words which we have learned through our privileged access to education and power, words which we have learned -- but only as slogans. When we say "equal opportunity," we really mean that the child of *that* sweeper should be able to go to the same school as *this* child, my child. When we say "equal pay for equal work," we really mean that *that* man, that *Harijan*, is doing just as good work as this man, this *Brahmin*, my brother, and that he should get the same pay for it. When we say "let us renovate the bureaucracy," we really mean that we, ourselves, cannot shuffle pieces of paper and hold endless committee meetings instead of getting down to the work for which we are responsible. When we talk about "standards of professional management," we really mean that we, ourselves, should observe the standards, the "codes of conduct" that we prescribe for others.

If we can face up to these realities, then I believe that we, the elite, will actually find life more satisfying -- and the have-nots may even give us a new lease on life. It is not difficult to know what we should do; it is only difficult to make ourselves do it:

> For politicians, it means addressing real problems and unifying people, not dividing in order to rule;
>
> For bureaucrats, it means working to get results, not to get rewards;
>
> For educators, it means learning and continuing to learn, in order to be truly able to teach;
>
> For industrialists, it means being industrious, creating productivity and rewarding productivity, instead of speculating and looking for sheltered markets;

For managers and technocrats, it means pursuing our profession truthfully, not bending to win rewards from the wealthy, nor to share privileges enjoyed by the power holders. It means, instead, maintaining a mastery over one's subject and practicing one's profession honestly for the benefit of the people who need it most.

In short, it means a hard path. But the rewards can be great. No other country has quite the same resources as we have: our unique combination of long-established culture; a vast array of natural resources, spread across a subcontinent; millions of skilled, diligent farmers. And, now, a remarkable pool of motivated, educated young people. All the tools are with us, in our hands, to effect the transformation of our predominantly rural society. Never has an elite had such an opportunity.

Thank you.

XX International Dairy Congress
Economic Committee

Paris, France
June 26-30, 1988

Food Aid in the Form of Dairy Products :

Linkage Between Food Aid and the Development of Milk Production and the Dairy Industry in India

"Food Aid" has three important uses:

(i) It can be provided as emergency relief in case of natural disasters, when it may become vitally important until a disaster-hit area regains its equilibrium.

(ii) Food aid may also have practical and humanitarian importance in medium- and long-term alleviation of hunger and malnutrition. Here, too, it may be vital to the well-being of its beneficiaries -- even though it cannot by itself assure their well-being once food aid ceases to be available.

(iii) Food aid can also be used as an investment by its recipients in the production, processing and marketing of food -- and it can thereby serve to eliminate the need for further such aid in the future.

In these short introductory remarks to our session, I shall concentrate on this third category of food aid, food aid as an investment. In doing so, I do not wish at all to minimize the importance of food aid in emergency situations or in programmes designed to alleviate hunger and malnutrition. The importance of such uses of food aid cannot be denied.

Nevertheless, the concept which I believe we should emphasize today is that the overriding objective of all aid should be to eliminate the need for aid -- and, if this be so, it is the use of food aid as an *investment* which is most likely to accomplish our objective.

Why is it that food aid has rather seldom been used as an investment? There are, I suggest several reasons:

1. Food aid as an investment differs from other uses of food aid inasmuch as the investment is effectuated by having the consumers of donated foodstuff pay for those foodstuffs. Moreover, if local production is not to be depressed, consumers of donated foodstuffs must pay prices which are approximately equal to prices which will make it remunerative for local farmers to produce the same foodstuffs. This means, in turn, that the quality of donated foodstuffs must justify the prices charged for them to consumers. Frankly, in a disaster situation -- or if I am a child, starving -- probably I shall not be in a position to care about the quality of whatever food may be given to me. But if I am a normal consumer, albeit in a so-called "less developed country," I will not pay a price which would be remunerative to the producer for any food, if it is of substandard quality. Thus, food aid as an investment must be food aid in the form of foods of *good quality*.

2. The use of food aid for investment in production, processing and marketing invariably requires that the implementors should undertake an integrated programme which involves helping indigenous producers to produce more of the food in question, linking their production to whatever processing facilities may be required -- and establishing efficient marketing channels for the additional production thus achieved. All this requires establishment of an appropriate and often quite complex institutional structure. Such a programme must inevitably be of medium- or long-term duration: say, five to seven years at the very least. Therefore, if food aid is to be used for such investment purposes, it cannot be poured into a country one year, only to be shut off the next year. Investment programmes cannot be run on that basis. Thus, another difference between food aid for investment vs. food aid for other uses is that food aid as an investment must have *continuity*.

"Quality" and "continuity" -- a few years ago, would these not have been considered impossible demands! Now, I know that I am approaching topics which are often considered to be quite delicate -- but the English

have a phrase, "Fine words butter no parsnips" -- and I do not think we are here today simply to utter fine sounding words. Let us see if, instead, we can "butter some practical parsnips".

I must frankly say that, in trying to get Operation Flood implemented in India, we had severe, practical difficulties with regard to the quality and continuity of food aid to be received for the programme. Especially in the early years -- in 1970 and 1971 -- we received mouldy milk powder and rancid butter oil, which we were supposed to recombine into liquid milk for human consumption and sell to Indian consumers. When we complained, we were in effect told that beggars could not be choosers -- and finally, when I had to intervene in the matter, I simply had to reject the commodities in question and declare that India would not be a dumping ground for commodities *unfit* for human consumption. Surely, it should not have been necessary for me to have had to say that.

A little later in the programme -- in 1973 and 1974 -- and just as our investment programme was getting into high gear, there was a temporary decline in world dairy product surpluses that resulted in supplies of donated skim milk powder and butter oil to our programme being virtually cut off.

Whether it be a delicate matter or not, I believe that the fact has to be faced, that -- in this case, at least -- the *machinery* whereby Operation Flood was receiving food aid was at least *partly* responsible for failure with regard to both quality and continuity. The fact of the matter is that the agencies involved in transmitting food aid from donors to recipients are often much more closely identified with the donors that they are with the recipients. They hold out their hands to the donors -- and accept whatever crumbs may fall from the table -- instead of representing the recipients and insisting that moral commitments be adhered to. It is for these very reasons that Operation Flood II is to receive donated commodities *directly* from the donors, so that we, the recipients, can deal with the donors face-to-face and man-to-man.

We are not supplicants. We are not beggars. And, I submit, the donors are not doing us any favour. On the contrary, in undertaking Operation Flood II, both the donors and the recipients of the food aid involved are recognizing a mutual interest.

This is not to minimize the importance of the fact that to achieve a self-respecting understanding between us -- the donors have had to make significant departures from what, until now, have been considered normal practices with regard to food aid.

It is now well-known that Operation Flood II will be supported by food aid directly from the European Economic Community. It is probably less well known that there have been very frank discussions between the EEC and ourselves regarding quality -- and I should add that, already, the EEC is taking quite extraordinary measures to ensure that India receives skim milk powder and butter oil for Operation Flood II that is genuinely fit for recombination into liquid milk for human consumption. I salute this valiant effort -- and, at the same time, I suggest that it should be a matter of concern to this Committee that such precautions should be necessary.

Moreover, when it comes to a question of continuity, there are even greater difficulties. So far as I know, neither the EEC, nor any one else in the food aid business, is in a position to guarantee continuity. Governments have not so far acknowledged the overriding need for continuity. What the EEC has done is that, in its Parliament and, I understand, in its Council of Ministers, it has explicitly and very strongly recognized the need for continuity -- and it has pledged its moral commitment to maintaining the continuity of supplies of commodities for Operation Flood II. Again, I suggest that is should be a matter of concern to this Committee that, with all their political powers, even the organs of the EEC cannot, as yet, legally speaking, make more than a moral commitment to the cause of continuity.

The fact of the matter is that, if food aid is to be an investment it cannot also be a dumping ground for inferior commodities or a sporadic surplus disposal system. Of course, these are issues which ultimately

have to be resolved by donors themselves. Finally, they have to decide whether they have the political will and the organizational capacity to sustain a programme of food aid as an investment with all that this implies with regard to quality and continuity.

But there is more to the question than that. Some countries at present import as much as 97percent of the milk which they consume. Does one see food aid to these countries being used as an investment that will help them to become independent of such imports, while also ensuring that their people enjoy an adequate diet? I believe not. It is said that advanced countries see to it that other countries that are so dependent on imports do *not* become self-sufficient, in order to protect the markets of advanced countries. I hope that this is not so -- and I suggest that this Committee should be concerned with any measures which can be undertaken to ensure that it will not be so.

I must assure you that some such measures are probably needed. When Operation Flood was first launched, in 1970, one advanced dairying country insisted that one of its own men should be the watch-dog over the commodity aspects of Operation Flood. Why? To ensure that India became self-sufficient in milk production -- or not? That the watch-dog was placed in our fold was the result of a "deal" which was struck. That was eight years ago -- and a lot of milk has flowed since then. Now, all should be clear in their minds: mixing aid with trade is not on.

This applies not only to food aid, but also to all that accompanies food aid. Often, food aid has to be attended by financial and technical assistance. Operation Flood II, for example, is to be financially supported via a World Bank loan to India and it is receiving technical assistance through the United National Development Programme, as well as through the use of World Bank funds for this purpose.

The provision of both financial assistance and of technical assistance must be clearly divorced from commercial interest. It is a negation of the purpose of food aid, for example, if a developmental financial institution is debarred from providing funds to enable less-

developed countries to become self-supportive with regard to particular foodstuffs. Yet this is happening in the case of foodstuffs which advanced countries export -- and it is happening with regard to foodstuffs which industrialized countries fear may be produced more economically by the less-developed countries. I suggest that it should be of concern to this Committee that the purpose of food aid as an investment will be destroyed, if such embargoes are to be imposed on the financial assistance that is needed to support and enhance food aid as an investment.

Similarly, when technical assistance accompanies food aid, it must not be used as a means of entry for multinational companies to which recipient countries do not wish to play host. Neither should technical assistance be a means of selling the equipment of particular industrialized countries to the less industrialized. Technical assistance, as much as financial assistance, must be divorced from commercial interest and fully under the control of the recipient country. For example, I shall never forget how, during the first three years of Operation Flood, whenever a certain foreign "expert" visited our projects, he would recommend a certain piece of dairy equipment. It had a funny brand-name. I will call it the "Iron-Maiden". It is really just a pump for milk. Anyone can make it, if they want to. But this expert didn't recommend "a pump": he recommended "the Iron Maiden". Why? Well, it was made in his country, he "knew" it was good and reliable. Now, this really will not do, will it? Again I suggest that it should be a matter of concern to this Committee that one has to say that assistance must be objectively provided.

Of course, it may well be argued that, under the New Economic Order, there will in any case be no need for aid at all. But, also, in the long run, we shall all be dead. What we have to address ourselves to, here today, is the present reality of food aid as an investment and of all that goes with it.

I for one, certainly, do not enjoy holding out my hands for food aid -- nor for financial and technical assistance. But the present way of the world is such that, if I am to try to do what must be done, in my line of

work, I have to acknowledge that food aid, financial assistance -- and technical assistance -- can all be very valuable. In our case, food aid helps to "prime the pumps" for our dairies, as well as generating funds for investments. Financial aid helps to speed up the development of an infrastructure which can reach into our village and help our rural poor to become more productive and self-reliant. Technical assistance helps to speed the development of our professional and technical cadres -- and, certainly, our people *do* benefit when the institutions of advanced countries open up their doors to our people and enable them to assimilate and build upon the experience of the more industrialized countries.

In closing, please allow me to list the issues with which I believe this Committee should be concerned:

Food aid as an investment:

- cannot be a dumping ground for substandard products;
- has to be given with assurance of continuity;
- must be divorced from commercial interest;
- must not be manipulated to project industrialized countries' markets;
- must be accompanied by *disinterested* financial and technical assistance.

If these requirements can be fulfilled, then food aid as an investment -- along with whatever financial and technical assistance may be required -- can be invaluable to us. But it is not a matter of anybody holding out his hands. On the contrary, it is a matter of mutual interest. When an industrialized country commits its present surpluses in such a way that they can be translated into an investment in a less developed country, then they are investing their surpluses in deficit countries which, in the long run, may well be feeding the very countries which today are in

surplus. Thus, as a matter of mutual self-respect, food aid as an investment should be seen as an exchange between donors and recipients: an exchange of the donors' present productive assets in return for access to the recipients' future productive assets. In fact, an investment of their present advantage in what we hope will be a better future for all our countries.

Tamil Nadu Agriculture University

Seventh Convocation

Coimbatore, Tamil Nadu
January 17, 1979

Convocation Address

Mr. Chancellor, Mr. Vice-Chancellor, Members of the Board of Management and Academic Council, Members of the Faculty, Alumni and Students of the University, Ladies and Gentlemen--

I have observed that it seems to be a custom -- for anyone who is given the privilege of making an address such as this -- to duly record that one is honoured to have such an opportunity ... that one considers it a privilege ... and that it is a pleasure to have this opportunity. Whether this "pleasure" is the speaker's only, or the audience's also, one sometimes has reason to doubt.

For my part, however, an occasion such as this truly is a pleasure: like most people who are invited to speak, I suppose that I usually indulge myself and speak about whatever is uppermost in my mind at the time, while somehow concocting a link, however tenuous, between my preoccupations and the official excuse for my making a speech: In this case, the solemn occasion of a great university's convocation.

Today, however, one of my major preoccupations is with the future of fresh graduates in the agriculture and food sciences. So, I am taking this opportunity to address, particularly, the graduates in this audience. To you, the graduates, I would make this request: please do not treat this as a speech which is imposed upon you; please consider it as an attempt on my part to initiate a dialogue with you.

These days, I often feel a great concern for the young men and women who are graduating from our universities. For one thing, their numbers have increased far faster than our society's ability to provide them with productive employment. Often, even the most diligent, after

graduating with high hopes, must spend months -- and even years -- in search of a job. In agriculture, particularly, the prospects for fresh graduates must often appear particularly grim.

Let us face it: a great many of our research institutions are not exactly humming with activity. They do not all, by any means, open their arms to welcome young people with fresh ideas, who are eager to make their mark and to contribute significantly to agricultural progress.

If not the agricultural research institutions, what is the next choice for the agricultural graduate? I suppose it is the extension services. But, again, one can hardly point to most of our extension services and say to the young graduate, "Here you are. Here is a splendid opportunity for you to join a vigorous, creative, results-oriented organization." On the contrary, most of our extension services are suffocated by bureaucratic procedures; they are weighed down with an accumulation of deadwood which cannot be pruned; most of them are more preoccupied with erecting bureaucratic empires than they are with helping farmers.

This is why I feel that, today, fresh agricultural graduates may well be justified in being doubtful about the future.

I contrast this situation, in my mind, with the day when I graduated, as an engineering student, from Madras.

In those days, we were the fortunate few who had been granted access to a good education in modern science. There were very few of us. Moreover, we were graduating at the time of Independence. National hopes were running high. The Independence Movement had created a momentum of its own -- and we, the educated ones, looked forward, with good reason, to having a chance to make a real contribution to the country's development.

There was a sense of unity. The better-off and the poor were agreed that this was the time for change -- and that it was a real opportunity for significant change. We had learned how to pull together

for the national good. The Independence Movement had taught us one important lesson: united, we could stand and succeed in all things -- whereas, earlier, we had been divided -- and we had fallen prey to our occupiers.

For my own part, my rising expectations were reinforced, when I was selected as one of 500 graduates to be sent abroad by the Government of India for further technical education. So it was -- a few years later -- that I returned to India, after obtaining a Master's degree abroad, with high hopes of making a contribution to our new society.

Imagine, then, my dismay when I found that the Government of India had posted me to a place called Anand, in the depths of the countryside, some 400 kilometers north of Bombay. Now, it is true that I had been sent abroad to study dairy engineering -- but it was also true that I had managed to combine this rather prosaic subject with a programme in metallurgical science -- a subject in which, at that time, I thought I might perhaps make more of a mark. But the Government of India was adamant. As far as they were concerned, dairying was what I had studied -- and dairying was what I would practice.

In fact, at Anand, there was not much opportunity to practice anything else. At that time, Anand was a town of some 15,000 rather isolated people. Apart from one railway station, its other major landmark was Government Experimental Creamery, which consisted of one very outdated pasteurizer, of which I was to be in sole charge...

There was one other landmark at Anand, it is true. That was a private dairy called Polson's Dairy. Many years earlier, Polson had pioneered in the making of sour cream butter. During the First and Second World Wars, they had supplied butter -- and, later, cheese -- to the British Army. Then during the Second World War, when there was an acute shortage of milk in Bombay, the Government had tried to start a milk scheme in the city, in order to supply subsidized milk to mothers and infants. This milk was to be obtained from Kaira District -- and Polson's

Dairy was given the exclusive contract for procuring this milk and shipping it to Bombay.

By 1946, the milk producers of Kaira District had become increasingly angry about the milk price. They felt that they were not getting a fair share of the price which consumers were paying for their milk. So they went on strike and refused to supply milk to Polson's Dairy at Anand.

But, obviously simply going on strike would not by itself get the farmers a better milk price. They went to Sardar Vallabhbhai Patel -- and he advised them to set up cooperatives, so that they could manage their own milk business. He had always believed that Independence meant economic independence as well as political independence. Accordingly, Sardar Patel asked one of his young lieutenants, Shri Tribhuvandas K. Patel, to work with the milk producers and to help them organize their own milk cooperatives.

And this is how it happened that -- when I found myself grounded in Anand -- the Kaira District Milk Producers' Cooperative was there, struggling to expand, under the leadership of Shri Tribhuvandas Patel, who had become the Chairman of the dairy cooperative union.

One of the cooperative's main problems was its lack of reliable equipment to pasteurize its milk, in order to conserve it for onward shipment to Bombay. So I advised the cooperative that it should obtain for itself a small, modern facility for pasteurizing its milk, so that it could be sure of the milk's quality and suitability for the Bombay market. In those days, all such equipment had to be imported -- and, by the time the Anand cooperative’s equipment was due to arrive, I had managed to get released from my Government posting at Anand. I was looking forward to my rapid return to the big city. However, the Shri Tribhuvandas Patel was as persuasive then as he is today -- and I found myself appointed the Manager of the cooperative, with a commitment to stay at least long enough to get the new dairy plant working.

As it turned out, I never thereafter left Anand.

This is not the place for any more biographical detail. But I felt I should explain how I came to go to Anand in the first place -- because I believe that the experience that I had, so many years ago, relates directly to the career expectations of the graduates here today.

I say this because, as it turned out, one of the most interesting developments in our milk cooperative related not so much to dairy engineering, as such, but rather to the milk production side.

As the number of village milk cooperatives grew, we found that there was a demand for services which would help the producers to increase their milk production. What was more, we also found that the cooperative could help producers by providing milk production services out of the margin which it earned by marketing the producers' milk.

Today, the cooperative has more than 300 professional employees working directly for the milk producers: three hundred paid professional employees of the farmers. It has a veterinary service which sends mobile veterinary clinics into every village every week, giving free veterinary care for milk producers' animals. It has an emergency veterinary service, which can get a veterinary doctor to a village within four hours of the producer calling for the vet. It operates an artificial insemination service through the village cooperatives, which is available to milk producers right on their doorstep. It carries out fodder extension programmes, distribution of seeds for green fodder production -- and it now operates a purebred heifer scheme. Its cattle feed compounding plant is the largest in India.

The town of Anand has grown almost to be a city -- it had a population of just under 100,000 at the last census. All around Anand there are small-scale industries which make among other things: milk testing equipment, laboratory glassware and so on. The Anand cooperative union has helped five other cooperatives to come up in other parts of the State -- and these six cooperative unions have formed the

Gujarat Cooperative Milk Marketing Federation, which provides joint marketing programmes and common services for all its members.

Moreover, as you may have heard, the Anand cooperative became the basic model for the national dairy development programme which is popularly known as Operation Flood. Under this programme, over the last few years, the Erode District Cooperative Milk Producers' Union has come up. Already, it has 153 village cooperatives: It handles 22,000 litres of milk daily -- and we are sure that it will rapidly come to handle much more than that, when its new plant -- which is now under construction -- comes on stream. In fact, Erode has become the Anand of the South. It is one of the 37 District dairy cooperatives which are now arising all over India. Moreover, Erode is the nucleus of a major milk cooperative network, which will cover most of Tamil Nadu during Operation Flood II.

If one Kaira Milk Union can employ three hundred professionals to work directly in the service of farmers, what then must be the potential of a dairy cooperative network which is to cover most of this state?

Now I am not saying that all the graduates here today could, or should, immediately seek employment with the milk producers' cooperative just down the road -- although probably you could do worse.

It is true that there are drawbacks to working for farmers. But then there are also drawbacks to working for politicians and bureaucrats, I believe. I have never had to work for them myself, but I understand that such work is by no means a bed of roses. Personally I know more about working directly for farmers, because I have done that for the last 30 years. I can assure you that it is true that the farmers can be quite demanding. They may not take much notice if a government veterinary doctor is not available when they want him. They may take it for granted that the government veterinary doctor, even if he is available, may not have medicines. And, when they walk with their milch animal for five miles to get it inseminated, only to find that the government inseminator is off, enjoying a statutory holiday that day -- well, they may even take *that* as a part of life, too.

All this, however, changes when the veterinary doctor and the inseminator are the farmers' own employees. Then, they expect a proper service and a high standard of professionalism. They expect to get their work done. They expect the veterinary doctor to arrive on time. They expect him to cure their animals -- and it can be awkward when the disease is not susceptible to cure. If they are given a recommendation to grow green fodder, they expect the seeds to come up and to be profitable. All this can be very demanding. It can also be very satisfying.

And is it not high time that this kind of development should be the rule in our country, rather than the exception? The ordinary rural producer has waited a long time to reap the benefits of Independence. He does not get any Dearness Allowance or Travel Allowance. He does not get an annual increment. He has no labour union. His children get the short end of the stick when it comes to education. The medical services available to him and his family are frequently nominal. He lives from promise to promise, as elections come and go.

The lesson of our cooperatives is, surely, that the farmers do not have to live on promises, when there is an infrastructure through which they can define their needs and also obtain access to professional, scientific personnel and to technical inputs for increased production. The dairy cooperatives provide this infrastructure. Their main advantage is that they enable professionals, such as those graduating here today, to work directly for and with the farmers, without the barriers created by a bureaucratic structure, by an urban-oriented system of Government, or by any of the self-protective mechanisms which our elite has constructed for the preservation of its own privileges.

This is not to say that a bureaucracy is not needed. Not is it to say that systems of government can easily avoid an urban orientation. The nature of governments and of bureaucracies is that their apex and focus is almost bound to be in the big cities. Probably that can't be helped. But what it means is that when it comes to rural development, the governmental structure would best confine itself to identifying national

and state goals and priorities -- and that the bureaucratic structure would best confine itself to guiding, monitoring and, if necessary, correcting the implementation of the policies and goals established by government. It is only when the bureaucratic structure tries *also* to do the implementing itself that inevitable difficulties arise: a bureaucratic structure is not suited to the practical tasks of getting things done in our villages, or to working with farmers.

The cooperatives offer an alternative, effective structure: cooperatives such as the dairy cooperatives that I have briefly described. Cooperatives, in fact, like the Erode dairy cooperatives, for which a tremendous growth is planned in Tamil Nadu. And the growth of these cooperatives is a development that holds out great hope for young professional people like yourselves.

For you who are graduating here today, there are so many jobs to be done: jobs in which you can contribute your skills by working with and for the farmers. Before I end this address, allow me to list just a few of these jobs for your consideration.

- There is the job of enabling our millions of small holders to combine the production of the staple foods which they need for their families with the production of at least a marginal surplus of products which they can market so that they may enter the local cash economy;

- There is the entire task of organizing the marketing of technical inputs, so that the poor majority gets fair access to them. I am thinking particularly of inputs such as canal irrigation, for example, inputs which often tend in practice to be monopolized by larger landowners.

- There is also, I believe, a need and opportunity for a much more intensive and purposive approach to village-by-village organization of demonstrations to show small producers practical methods of cultivating improved varieties with a

minimum of risk. In many cases this localized demonstration organization needs to be reinforced by provision of farmers' training and by regular and frequent visits to farmers fields by extension workers who can give farmers practical advice on cultivation practices, disease control and so on.

- With many staple crops, as well as specialized crops, there is also the job of reorganizing, on a scientific basis, the processing and marketing functions. Our experience with milk indicates that a lot more can be done to make the links between the producers and consumers more efficient.

Then, if we really tackle the processing and marketing tasks, we shall probably find that this also calls for a somewhat different approach to the so-called "marketable surplus" of our producers. So far we have thought of agricultural exports mainly in the context of foreign-oriented plantation crops; but the marketing of plantation crops has always been manipulated by the industrialized countries who are their major consumers. In the near future, however, our agricultural producers will be able to produce a far wider range of products for export -- and these exports can be a means of boosting small producers' earnings. But it is well known that an agricultural export business has to be organized scientifically, to ensure consistent quality, hygienic conservation and consumer-oriented marketing. These tasks cannot be performed by grasping old fashioned mercantilist "traders". Nor can these tasks be performed by bureaucrats who value administrative convenience more highly than the professional integrity of the technical personnel who are required to run such a business. Thus, our growing emphasis on agricultural exports can also provide new opportunities and challenges for those who are graduating here today.

In fact, for you, all these problems are also opportunities. So I hope that you will not be depressed by what sometimes appears to be the overwhelming dominance of bureaucratic bumbledom, or grasping mercantilism, or petty politicking, and of other such depressing features of our urban, elitist structure.

You need not depend on that structure for your future. Our country *is* creating an infrastructure which can bring together the interests of our farmers and the interests of young scientific professionals, like yourselves, who have so much to offer to our farmers.

It will not be an easy transition from urban elitism to scientific rural productivity. It is clearly not an aim which my generation has served very well. But, nevertheless, the farmers are creating their own infrastructure and look to you, above all others, for scientific help and professional integrity. Work with them and I believe that you can each of your find satisfaction in the future.

Thank you.

SECTION 2
DEFENDING THE DREAM

By the end of the 1970s Operation Flood was widely recognized as a success. Dairy cooperative structures had been started in 39 districts. There was a steady increase in the numbers of dairy cooperatives and membership was soaring. Cooperative milk procurement had reached 25 lakh litres a day, more than four times what it had been a decade earlier. National milk production had begun to recover from its post-Independence stagnation and, more important, daily per capita availability of milk had risen from 107 to more than 130 grams.

Operation Flood's success had drawn national and international attention. Dr. Kurien was increasingly being lauded as the architect of India's "White Revolution." Impressed with what had been achieved with milk, the Government of India had requested the National Dairy Development Board to apply the Anand Pattern to oilseeds, and then to fruit and vegetables.

For Dr. Kurien, the original blueprint had been elaborated and transformed into a vital organization. Kaira District had given birth first to other milk producers' unions in Gujarat. It then not only inspired, but provided many of the resources necessary to create the National Dairy Development Board, an institution that in design bore considerable resemblance to the Indian Dairy Products' Marketing Board that Dr. Kurien had visualized in 1955. The commercial dimension of that board was soon being realized by the Gujarat Cooperative Milk Marketing Federation, destined to become India's largest company in the food sector.

The blueprint drawn up in 1955 had been refined and developed. The basic philosophy was clear: true development was the development of men and women, and the way to achieve that development was to place the instruments of development in their hands. The many dimensions of such development were emerging: dairying led not simply to improvement in a family's financial well-being. It had a broader and deeper impact on village health and sanitation, on nutrition, on family planning, on bridging the divisions of caste and community, and on increasing as well as strengthening the plurality of local institutions necessary to underpin parliamentary democracy in the states and Centre.

The role, ethics and obligations of the professional had been defined and the National Dairy Development Board was attracting large numbers of committed young men and women, eager to serve an organization devoted to the

nation's rural producers. The interest was so high that it would soon lead to establishment of the Institute of Rural Management, Anand, a management institute designed to meet the needs of those who would work for farmer-owned organizations.

The NDDB's own role as a multiplier agency was defined. It would not create an empire of its own, but facilitate the multiplication of tens and even hundreds of autonomous, democratic and self-reliant cooperative institutions.

Even the financing of development had been the subject of Dr. Kurien's innovation. In 1955 he had suggested financing the Indian Dairy Products Marketing Board by canalizing through it the imports of all dairy commodities. Taking it a step further, Dr. Kurien had evolved Operation Flood as the recipient of what were then massive quantities of donated dairy commodities that, instead of depressing local markets, were sold at prevailing market prices to generate funds for the creation of a cooperative dairying infrastructure.

With this slate of accomplishments, it should have been smooth sailing. But, as Dr. Kurien ruefully remarks in his speech to the National Productivity Council in 1980, once the NDDB became involved with vegetable oil, "the roof fell in." The NDDB and its Chairman were soon under fire from virtually every quarter: from academicians, from the press, from bureaucrats, the very donors who had supported Operation Flood and its offshoots, from a collection of domestic and foreign non-governmental organizations, and even from highly placed ministers in the Central Government.

Academicians attacked Operation Flood, often with anecdotal evidence, or less, on the grounds that it had failed to transform the life of all of India's rural poor; or on the grounds that it had not achieved and end to class and caste distinctions; or on the grounds that it was not producing milk cheap enough for even the poorest of urban consumers; or that it was draining milk from the rural countryside in order to satisfy the urban elite. Few of these "studies" were based on empirical evidence. In fact, such empirical evidence as was available generally contradicted them. Nonetheless, the attacks continued, often financed by organizations located outside of India.

The press leaped into the fray. The most spectacular assault came from the now defunct Illustrated Weekly of India *which published a scathing attack on Operation Flood and Dr. Kurien in a series written by a "development scholar," Claude Alvares. Others joined the fray with similar articles, often based on the*

less than scholarly research that had been produced on Operation Flood. It was only when the entire body of NDDB officers resigned as a statement of their support for Dr. Kurien and the Operation Flood programme that the press paused. Shortly thereafter the Press Council of India, acting on a complaint from the NDDB, censured The Illustrated Weekly.

Encouraged by the atmosphere of criticism, bureaucrats and technocrats whose sinecures had been threatened by Operation Flood returned to open opposition. Always reluctant to agree of Operation Flood conditionalities that required genuine cooperation, state ministries dragged their feet and even refused to agree to such basic requirements as the guarantee of regular cooperative elections.

Emboldened by the articles appearing in the press, at least one Central Minister tried to "cut Kurien to size" by encouraging a debate on Operation Flood in the Lok Sabha. The Prime Minister quickly put paid to that exercise and a committee, chaired by the eminent civil servant and economist, Shri L.K. Jha, was appointed to assess Operation Flood. Its report, prepared after months of examination of the programme and its impact, was laudatory in every respect.

During this period, while Dr. Kurien's speeches continue to focus on the meaning of development, there is also a thread that runs through the decade that surfaces and answers the attacks on Operation Flood. Never shy to admit his and the NDDB's errors, Dr. Kurien continued to acknowledge problems where they existed. But he was also more direct in drawing attention to the obstacles created by other agencies and individuals.

In weighing the impact of the attacks on Operation Flood, on NDDB and its Chairman, there are two significant pieces of evidence. It was during this very period that an eminent committee, headed by Price Claus of the Netherlands, selected Dr. Kurien as the winner of the Wateler Peace Prize. An equally eminent committee, chaired by Dr. Norman Borlaug, chose Dr. Kurien as the third World Food Prize laureate. But the most important choice was made by the women and men who produce India's milk. They joined dairy cooperatives in increasing numbers, pouring their milk and contributing to building one of the world's largest and most successful cooperative enterprises.

National Productivity Council
22nd Foundation Day Lecture

New Delhi
February 12, 1980

Productivity and rural development: Some economic, technical and social considerations

Mr. Chairman, Members of the National Productivity Council, honoured guests, ladies and gentlemen.

I am honoured to have been invited to make this address today, on the occasion of the 22nd Foundation Day of the National Productivity Council. I have long admired the work of the Council -- all of us who are concerned with the task of rural development cannot but be aware of the overriding importance of increasing our country's awareness of the concept of the productivity -- and thereby increasing the adoption of techniques and managerial practices which will raise national productivity.

I hope, therefore, that it will be acceptable to you if I speak today as a manager who is always on the look-out for ways of increasing productivity -- and who, quite frankly, often encounters difficulties in putting the concept of productivity to work in the process of rural development. To explain what I mean, allow me briefly to describe the context in which a manager of rural development, such as I, must work.

It has been my honour to be an employee of farmers since the late 1940s. It was in 1949 that I first went to a very small, traditional town called Anand. Anand had a railway station, traditional housing for some 15,000 souls, two missionary hospitals -- but very little else. There was not a single, all-weather road in the District. The Kaira District Cooperative Milk Producers' Union -- now better known as Amul -- which had been registered only in 1946, consisted of some 20 struggling village milk producers' cooperatives Because they had no dairy processing plant of their own, these societies had to depend on a private dairy to pasteurize their milk for onward shipment to Bombay.

Today, Anand and its suburbs house an urban population of approximately 100,000. The Amul Dairy currently processes as much as 800,000 litres of milk daily. Anand is also the headquarters of the Gujarat Cooperative Milk Marketing Federation -- of which Amul is a member -- and that federation markets some Rs. 1 billion worth of milk and milk products annually, serving some 650,000 milk producers and their families: that is, say, a rural population of about three million souls.

The Anand Pattern of Dairy Cooperative has become a model which has been adopted in many parts of India, as in another countries also. In our country, in particular, the Anand Pattern is the model on which the world's largest dairy development programme, "Operation Flood," has been built. Through Operation Flood, some 10 million milk producers and their families -- many of them landless labourers and small-holders -- will be enabled to modernize their milk production and thereby significantly increase their incomes during this decade.

But let me turn again in a little more detail to the town of Anand and Kaira District, where I have lived and worked these last 30 years. How has it come about that every village of Kaira District is now connected to an all-weather road? How has it come about that veterinary doctors visit every village once weekly, to tend the animals of the milk producers, rich and poor alike? How has it come about that, even as I speak today, a programme is being launched to establish a human health-care system that will be available to every mother, infant and child in the villages of Kaira District -- a human health-care system established by the people of the village themselves?

How, in short, has it come about that, in the district of Kaira, there is a caring, vigorous rural society, conscious and proud of its roots?

It has come about, in my view, because the people themselves, in every village, have built up their own institutional structure -- in this case, through their milk cooperatives. Through this cooperative structure, they have obtained the services of highly-qualified veterinary doctors, dairy

technologists, dairy scientists, animal breeders -- and, of course, professional managers. These professional employees of the milk producers are employed, in the cooperative structure, to carry out policies which are set by their cooperative's board, composed of the producers' elected representatives. In this way, the people of Kaira District have in their own hands a powerful instrument for nothing less than total rural development.

Yet, it is true that, even in Kaira District, farmers are still exploited. There are still mothers and infants who are poorly fed. There are still villages where the infants of the poor people are neglected while their parents work in the field. The young are dominated by the aged. In many villages, youngsters have little to do but gossip in the square for most of the day, listening listlessly to a transistor. For them, the village is a prison. True, they no longer all flee to the city -- they have heard that it is a hard, bad place. They also know that the money-lender who controls their family's fate now has "city connections." They have seen that many an agricultural extension officer is often in cahoots with the rich farmers -- moreover, for them, that officer represents "the administration," another amorphous, city-oriented body. What is more if ever the village youngsters see a policeman, they are only too aware that he is helpless before a tide of petty corruption -- and to them, that is "law and order."

Against this oppressive backdrop, if they are lucky, the young people in the village will also know that there is a milk cooperative in their village -- and that it has a working system of representation: an elected managing committee to protect the interests of all the cooperative's members, rich and poor alike. Indeed, the cooperative's centre in the village is probably the only *pucca* building in that village: It symbolizes stability, especially in the eyes of the poorest people, who know that the milk cooperative works for *them*. And, through that cooperative, there is a steady flow of step-by-step, modernizing technology: first the milk procurement centre itself -- swabbed down with disinfectant morning and evening -- is the village's first introduction to the idea of modern sanitation. Then the veterinary doctor, professionally educated: the village's first introduction to scientific health care. Then, the introduction

of artificial insemination for the producers' milch animals: the village's first intimation that the processes of reproduction are subject to human control. Soon, the milk cooperative takes to marketing balanced cattle feed concentrates to ensure that the up-graded animals, born of artificial insemination, can produce milk to their full genetic potential. The producers learn that a dry cow which is pregnant must be fed well, if the foetus is to develop properly. This is the village's first practical demonstration of "nutrition."

Now, the cooperative's veterinary doctors can even be called by radio, whenever there is an emergency need for veterinary care.

To me, the most important outcome of all these changes is not, quite frankly, the fact that milk production is increased -- and, certainly, it is not the fact that the Amul Butter is -- though I say it myself -- utterly butterly lovely for all you lucky Delhi-ites. No, what is important is that in each village people are identifying their needs and taking action to secure the changes that *they* want. They are saying, "*We* can do it," not "They should do it."

That, very briefly, is the context in which I work.

It is clear that the concept of productivity has a lot to do with all these matters. It is also clear that the system works when it is put into the producers' own hands. Yet, in most of the villages throughout our land, exploitation is still the dominant relationship: subjugation of the poor by the rich, of the young by the old, of woman by man.

With all our knowledge of the sciences, with all our knowledge of modern management, with all our tools for increasing productivity -- why has the concept of productivity had so little impact in our villages where, after all, the majority of our people live?

The tools to change all this have been in our hands for three decades now. And it is true that there are efforts to speed up the process of rural change -- Operation Flood is one example I have already cited.

Also, the producers of oilseeds and cotton are now taking steps to get the processing and marketing of their produce into their own hands. But progress is slow -- and most of our villages remain untouched by the process of development and the concept of improved productivity.

Why is this so? Well, if Operation Flood is anything to go by, I believe that I can identify the main reason why progress is not only slow, but also *unnecessarily* slow.

When we started Operation Flood, most of the powers-that-be took it as a flash in the pan: just another government programme which, given time, would evaporate into thin air. Then, gradually, they came to realize the milk producers meant business. Fortunately, however, most *ghee* merchants, city *dudhwallas*, and so on, are relatively small fry. By the time Operation Flood was in full spate, they probably felt that is was too late for them to do anything about it.

Then I made a terrible mistake. I accepted the Government of India's request -- and willingly so, I should add -- that we should apply the lessons learned in Operation Flood to the oilseeds and vegetable oil sub-sector: that we should put the tools of modernization into the oilseed growers' own hands -- that we should enable the oilseed growers to modernize their production of oilseeds, their processing -- and the marketing of vegetable oil itself -- and that all this infrastructure should be in the hands of the oilseed growers' own cooperatives.

That was when the roof fell in!

Suddenly, and with mysterious -- indeed, astonishing -- rapidity, a tide of personal innuendo and vilification appeared in the press; a concerted attack was launched on any professional who could be identified with Operation Flood and our oilseed programme.

Then, indeed, I -- like the youngsters I mentioned, in our villages -- I, too, learnt that the money-lender does, indeed, have "city connections," that the extension agent is, indeed, a part of the administration -- and

that, the petty bureaucrats in that administration see it as a *threat* to their little empires, when ordinary small-holders and milk producers decide to form their own cooperatives and to hire their own professional extension men. Even the policeman, I learned, has his stake in the oilseed business! Incredible though it may sound, even the local policeman is permitted by the *Telia-Rajas* to "invest" his Rs. 100 in the local stock of oilseeds, which, after it has been bought at low, distress prices from the growers, is held off the market in order to create an artificial shortage, so that high price may be extracted from urban consumers. I am told that even local bankers these days receive what is politely called a "consideration," for helping to finance the *Telia-Rajas*. These are the people who are threatened by the process which you and I call "rural development." Their stake in the *status quo* is so high that they will never cease defending it until they have exhausted all the weapons which they can lay their hands on: Influence, connections, corruption, libel, slander and violence.

Thus it comes about that all our knowledge of modern science and technology, all the tools for improved productivity that we command, are brought to naught -- and the process of rural development is, in most of our villages, throttled at birth.

I said, "in most of our villages." *Most*, but not *all*! Slowly, but steadily, and at a constantly increasing rate, people such as poor milk producers and oilseed growers are organizing the production, processing and marketing services which they need in order to get fair returns for their labour. And we all know that, if those returns are ever to be adequate -- if our rural people are ever to enjoy even the most modest fruits of the 20th century -- improved productivity in our villages must be the basis of rural development. At the same time, if we are frank with ourselves, surely we have to admit that our very slow progress in rural development indicates that we have not yet found an effective set of tools for putting the means of improved productivity into the hands of our poor, rural majority.

In my view, we must attribute much of this failure to the fact that the concept of productivity had its birth in the western mass-production

factory: In other words, the techniques of productivity improvement originated in an alien, urban and industrial context.

Take the westernized economist's approach to rural productivity, for example. He takes my proposal for Operation Flood and asks me if it "optimizes in its allocations of scarce resources"! I submit that he is asking me the wrong question. What he should be asking me is: "Will Operation Flood's benefits go to small-holders with poor land?" I know -- and that economist should know -- that of course returns on investments in poor land will not be high as returns on investments in good land. But we also know that the best land is monopolized by rich farmers. So the very questions that the westernized economists ask are irrelevant to the task of dismantling traditional rural systems of exploitation. If you ask the wrong questions, you get wrong answers.

The same is often true, I fear, of the technocrats of rural development: the agronomists, the animal science professionals, the forester and the like. When they look at a programme like Operation Flood they say, "Why are you wasting your time and money with these 10th-century cows and 16th-century buffaloes? Why don't you bring in beautiful herds of purebred Jersey cows, Holstein cows, Danish Reds, Swiss Browns?" They tell us to choose from all the pure-bred colors of the bovine rainbow!

We sympathize with a westernized animal scientist who says such things -- but we also know that the best that the landless labourer has in his hand today, if he is lucky, is a 10th-century Indian nondescript cow -- or, at best, a 16th-century buffalo. That is the poor producer's stock -- and that is what we have to work with.

It is true that a highly bred European cow is, in its homeland, an efficient machine for producing milk: not only according to measurements taken by economists, in money terms, but also in measurements such as energy input-output ratios. In other words, a highly bred cow, when kept in a sufficiently sanitized environment and protected by sophisticated disease control systems -- certainly, such a purebred beast will produce

more milk per unit of energy fed to it than our poor producers' decrepit animals. But we are not yet at a stage when we can *create* in our villages the sanitized environment and sophisticated disease control systems which will enable our poor producers to keep the purebred animals which are theoretically the most efficient producers of milk.

Thus, like many conventional economists, the conventional technocrats also seem to ask the wrong questions. And, technocratic approaches to improved productivity in our villages cannot put the tools of improved productivity into the hand of our poor, rural majority.

Thus, increasingly, in our search for a key to rural development, we leave aside the conventional economists and technocrats and we turn to the sociologists. There we encounter a paradox: the professional sociologist is very good at describing a social structure, at measuring attitudes to change, at diagnosing male vs. female roles -- and so on. But all these sociological exercises do not seem to be of much help when it comes to putting some equality into the power structure, or modernizing attitudes to change, or freeing women from the bondage of traditional ideas about men's and women's roles.

We know, certainly, that at least the younger people in the villages are eager for change. My colleagues and I also know, from practical experience, that a multitude of young engineers, young agronomists, young veterinary doctors, who are now coming out of our colleges, are also eager to be given an opportunity to take on the task of rural development -- and to contribute to the social change which our nation so ardently desires and so urgently needs.

I wish that you could see what happens when one of our teams of young veterinarians, agronomists, and so on, enters a village which, until then, has been untouched by the process of rural development. I wish that you could see the burst of energy that is released when the people of that village -- the young and the old -- realize that, for the first time, they really do have access to the science and technology that can enable them to increase their productivity -- and to achieve a more equal, a more fair

society. I wish that you could see process just once -- then you would know what I mean. You would understand why we soldier on, despite the concerted manipulations of the public media, despite the rather odious resort to personal vilification, despite all the onslaughts which money and power in the wrong hands can buy.

The time has come, I believe, when the urban elite must take off its blinkers. We must no longer allow ourselves to be distracted by manipulators, by those who seek to monopolize the benefits of modern society. We can no longer take shelter behind excuses that the bureaucracy "does not work" and that traditional society is "too rigid". The fault lies not in our stars, but in ourselves.

After all, we who have had the benefit of modern education must recognize that we are, as yet, a privileged minority in our country. We have the knowledge and we have the skills to secure the welfare of our less well-off fellow citizens, the majority of whom are still poor small-holders and landless labourers in our villages.

We, the elite, have the tools, the techniques, the technologies, which are the key to modernizing society. What we lack, it seems, is the will to recognize the nature of the changes that are needed -- and the self-discipline necessary to yield our privileges and share our spoils.

The time has come, I believe, when our rural brethren will no longer accept their inequitable place in our society. It is up to us to recognize that either we initiate the processes of change ourselves -- or, by default, we must leave both the task and the opportunity to others.

I have taken this opportunity to try to express a view which may, at first sight, appear sombre. Indeed, you may feel that I have even imposed upon your hospitality. But I have taken this opportunity because I do believe that it is from institutions such as the National Productivity Council that the seeds of hope must spring. The time has come for massive rural development in our country -- it is a daunting task and the opposition is

great, but I believe that it is also the greatest opportunity that has ever been presented to a society such as ours.

Thank you.

National Institute for Training in Industrial Engineering

Bombay
December 10, 1980

Third Convocation Address

Post-Graduate Programme in Industrial Engineering

Air Chief Marshal P. C. Lal, Dr. S. M. Dasgupta, students passing out of the NITIE Post-Graduate Programme, Distinguished Guests, Ladies and Gentlemen --

Frankly, when I am invited to address students -- and, on an event such as this, such an invitation is of course a great honour -- I am nevertheless often obliged to decline such an invitation, because my work schedule does not usually permit me to undertake such obligations and, more importantly, one tends to preach on such occasions and I do not like to find myself preaching. Nevertheless, when Air Chief Marshal P. C. Lal happened to meet me and ask me personally if I would make this Convocation Address, I could not say no.

After all, I am basically an engineer myself and I have a profound respect for our profession. I am also a worker. I work for farmers: some 825,000 farmers. And when I say "work," I mean just that!

I want to talk today about the nature of work. I have heard that the National Institute for Training in Industrial Engineering is a place where students learn to work. I fear that such places are becoming increasingly rare in our country, as is probably the case in other parts of the world as well.

Yet, the fact of the matter is that nothing gets done in this world if people do not work.

Of course, there are many different kinds of work, but for all of us, at every level of every organization, work consists of the proper

application of the brain and the body to a task. The two cannot be divorced. People often talk about "white collar" jobs and they sometimes contrast these with "blue collar" jobs. I find such a distinction completely false.

Basically, for all of us, work is of two kinds: Innovation and maintenance. By "innovation," I mean that it is often necessary to find a new solution, a new technique, a new method of organization. By "maintenance," I mean that quite lot of one's time is necessarily spent on ensuring that routines are followed, that equipment is kept in good condition -- and, if one's work is concerned with paper, one has to ensure that one's papers are kept up-to-date. Maintenance and innovation are necessary in every job of work and neither can be given excessive weight at the expense of the other.

Moreover, it is not correct, as is often implied, that the effectiveness of one's work -- on both maintenance and innovation -- is wholly a function of the quality of one's mind. Of course, the better the mind, the greater the chance of making correct decisions -- but it is equally true that one's effectiveness in work also depends on the body. One has to be fit and energetic in order to do any job effectively -- indeed, most of the effective officers with whom I work often have to put in 10 or 12 hours of work daily and one cannot do that unless one is in good condition.

The post-graduate students passing out of NITIE today may wonder why I am simply speaking about "work" and not about industrial engineering. I have elected to do this deliberately -- partly, no doubt, because you must be more up-to-date on industrial engineering than I am -- and also because I do believe that in our training and education we sometimes tend to give greater emphasis to technique and technology, at the expense of other less easily defined qualities which every effective worker must possess.

The students graduating here today, for example, will no doubt bring to their work an effective command of the modern techniques of industrial engineering.

But you will also find, when you start work, that what is just as important as technique is a sense of decency; an innate knowledge of how one should treat one's fellow-beings; and, *sheer straight-forward diligence.*

However, if you do bring these qualities to your work, you may well feel beleaguered and outnumbered. Wherever you may go to work -- be it in the public sector, the private sector, in Government or in the various forms of private associations which we have now in our country -- the fact is that many of you will find that your elders have already established, in your organization, a pattern of working in which "decency," for example, has no place, in which it is "every man for himself". You may well *feel* that you have no choice but to adopt these attitudes yourself.

Don't believe it! One need not accept other people's standards. Everyone knows that it is ***wrong*** to adopt the "every man for himself" attitude toward one's fellow's workers. Moreover, it is not only wrong -- it is also damaging to one's self-respect and, ultimately, it can destroy the organization for which one is working.

Nevertheless, there is wide agreement in the country that self-serving norms have come to dominate the majority of our working organizations, for the simple reason that these norms have become the norms of our so-called "elite". This situation cannot last. Those of our self-styled elite who have adopted such norms will ultimately bring about their own downfall, because our impoverished majority will not stand for it much longer.

I am *not* talking with you about "work" because I believe it necessary to "lecture" the post-graduates of NITIE on the subject. NITIE is known for its ability to teach its students high standards of diligence and good relations with one's fellow-beings. I *am* talking about "work" today because it does seem to be inevitable that, when they take up their jobs, the majority of the students graduating here today will have great difficulty in *maintaining* their standards of diligence and their faith in the ethic of work.

After all, what has "work" become for the majority of our elite? Most of it is not work at all: rather, it is a substitute for work. "Industrialists" attend conferences in five-star hotels -- and that is "work." Administrators attend innumerable meetings, most of which are attended by so many fellow administrators that no decisions are taken at all -- whereas, had even one of them been willing to take the responsibility, he could have taken the decisions required without having any meetings at all!

Estimates vary -- but it is widely agreed that an increasing number of people in departments of government actually work for no more than 30percent of the time. Some put it at 10percent.

Then there are the "businessmen," whose only work is the buying and selling of agricultural produce. Without a qualm, they squeeze our poor farmers -- and then turn around and cheat the urban consumer for good measure! This, they claim, is "work."

But it is not correct to berate the businessmen and administrators, as if they are the only ones who have forgotten what work is. At both ends of our social spectrum, work-avoidance has become the norm. Many of our so-called politicians think that they are "working" when they spend their time and the tax payers' money on "rallying the people" -- on rabble-rousing, in another words -- and no serious thought is given to the formulation of proper policies and the practical steps required to eliminate the poverty of our majority.

At the "other end" of the social scale of our elite, there is what we refer to as "organized labour." It is often forgotten that organized labour is also part of our elite. Only a small percentage of our population is fortunate enough to have a regular job which is protected by our elaborate labour laws and which brings to each worker dearness allowance, bonus, casual leave, earned leave, sick leave, health insurance, life insurance, and the right not to work.

I am not saying there is anything *wrong* in all the benefits which go to organized labour, but I do believe that we all too often forget that most of our labourers toil either in unorganized sweat shops, or in the hot dry fields of our countryside. It is there that we find those who still know the meaning of work. And, since they are the majority, it is not reasonable to expect them to continue indefinitely to accept the work-avoidance ethic of our self-styled elite.

Nevertheless, the elite expects you, the students who are graduating from NITIE today, to join them! And it is true that is all too easy to fall into the trap, so carefully prepared by the elite to recruit the unwary into their numbers.

Ordinary common sense is enough to indicate that work-avoidance is ultimately self-defeating. But I find that I, personally, have constantly to keep up my guard, even against the *vocabulary* whereby the elite, through the public media, maintains its privileges and perquisites. For example, when civil servants are unhappy with their terms of employment, they "go on strike." When politicians are dissatisfied with the conduct of Legislative Assembly, they "walk out." That is how their behavior is reported in the media and the words "strike" and "walk out" have become accepted parts of our vocabulary. But when poor farmers collectively protest against being pressured to sell their produce at prices so low that they cannot afford to eat, then the press reports it as an "agitation."

I can assure you that the farmers for whom I work are not "agitated": they are *angry*. They do not see why they should sell their produce at prices so low that they cannot afford two meals a day -- and that, too, for the benefit of an elite that has adopted work-avoidance as an ethic.

I am dwelling on this subject of work because I believe that it is not only a neglected subject, but it is also a very *practical* matter. For example, when our late, beloved Prime Minister, Shri Jawaharlal Nehru, died, I read that, among his last words were, "I have disposed of all my files." These words reflected his *work* ethic. In fact, I do believe that,

since we achieved Independence, our country has been blessed with leaders of diligence -- and that is largely what has held us together. But, indeed, I wonder how far down that work ethic reaches? Not very far, I fear. Until we come to the cultivator in his field. He knows that he cannot survive on work-avoidance. If and when the rains come, he must prepare the land and get his seeds sown -- otherwise, he and his family will starve.

The same is true of the even less fortunate landless labourers. Men, women and children alike -- if they get a chance to do a few days' labour, even for a pittance, they consider themselves lucky. They, also, cannot practice work-avoidance.

This is why I am saying, to the students graduating today, when you go out of this place with the objective of *working* for the good of the country, no doubt you will be recruited into the country's key industrial organizations. You will assume that your supervisors will be testing you, stretching your minds, challenging you to work to the utmost extent of your mental physical ability. I hope that these expectations of yours will be realized -- but I fear that, for many of you, it will not be so. On the contrary, you will be pressured to adopt the work-avoidance ethic, to concentrate your minds on such matters as "perquisites" -- and thus to join the elite in its exploitation of the poor.

I am sure that the majority of you will not fall for the pseudo-prestige which at present enables our self-styled elite to surround itself with an aura of false glamour. In the national interest -- and in your own self-interest -- you will be wise not to accept the present norms of our elite. For, ultimately, our poor majority will *demand* that they get proper service from those who are fortunate enough -- and, perhaps, clever enough -- to have received a professional education.

So, in closing, I say again: w*ork* is what the poor demand of us all. Moreover, in our country's situation, it is work that gives one satisfaction. If we do not work properly, we know in our heart of hearts that we do not deserve to know where our next meal will come from: a privilege which is denied to so many who labour in the countryside to produce our food.

I am sure that the students graduating from the NITIE today have acquired not only modern techniques of industrial engineering, but also the work ethic which our country needs. I hope that you will be able not only to practice industrial engineering with skill, but that you will also be given the opportunity to practice it with diligence.

Thank you.

The Indian Society of Agricultural Statistics

Lucknow
December 23, 1980

34th Annual Conference

Dr. Rajendra Prasad Memorial Lecture

Making the most of our rural population's potential productivity

Dr. Swaminathan, President of the Indian Society of Agricultural Statistics, distinguished guests, and Members of the Society ...

It is a great honour to be invited to deliver the Dr. Rajendra Prasad Memorial Lecture. Dr. Rajendra Prasad was in the forefront of those leaders of the Independence Movement who understood that our rural population will be truly free only when they are freed from the bondage of the money-lender, the middleman and the landlord. His early understanding of rural exploitation helped to give the Independence Movement a special significance to the people in our villages.

I well remember his visiting our first little cooperative dairy at Anand in the very early 1950s. It was actually a "Government Experimental Dairy" which the Government had handed over to the cooperative -- and very wisely, too; but that's another story. Dr. Rajendra Prasad clearly saw how different things could be if the milk producers were actually to own their own processing and marketing facilities. His keen interest communicated itself to the producers. That such a great man could come all the way to Anand was surprising -- that he should so keenly espouse the producers' cause was, to them, quite amazing. And, to me, inspiring.

To deliver a lecture worthy of Dr. Rajendra Prasad's memory is a daunting task.

The task appeared to me all the more intimidating when I considered the fact that this lecture was to be delivered at the 34th Annual Conference of the Indian Society of Agricultural Statistics. I am no statistician. I was originally an engineer -- and have for some years been a manager, employed by farmers.

So, Mr. Chairman, I shall not even pretend to talk about agricultural statistics, which I do not know -- but rather, during the next thirty minutes or so, with your kind permission, I plan to talk about the people behind the statistics: our rural population, with which I have worked for during the last 30 years or so.

Why is it that the rural poor remain poor -- while many get relatively poorer -- despite the efforts and investments made by the official and quasi-official apparatus for rural development? One reason, I believe, is the way that governments and their corporations often try to do the job themselves of procuring, processing and marketing agricultural products. The public sector is insensitive to people's needs. Preoccupied as it is with the whims of its lords and masters above, with "audit" ever at its elbow -- and with rules and regulations impeding every step of the way -- how can we expect the public sector to be sensitive to the needs of poor people -- *especially* to the needs of poor people?

Thus it is that when the public sector gets into the business of procuring, processing and marketing an agricultural product -- with the declared intent of "helping the rural producer, especially the small farmers" -- it seems always to get into a jam. So-called "farmers' leaders" appear -- and, soon, they and the farmers are "demanding" higher price: naturally, as they have no responsibility for selling the product. Hence, the "farmers' agitations," which leave the poor as poor as ever.

It stands to reason that there must be better ways of doing these things. Probably, there are several ways -- and we already know of one that works for sure: that is, what has come to be referred to as the "Anand Pattern," the pattern developed by India's dairy cooperatives.

In the Anand Pattern, the rural producers continue to own and tend their milch cows and buffaloes as before. At the same time, through the Anand Pattern, the producers jointly acquire ownership of the dairy plant which processes their milk, as well as of the organization which markets the output of their dairy plant: fresh liquid milk, *ghee*, butter ... all those utterly butterly products which I am sure each of you consumes avidly!

If that sounds like a "plug" for the brand of dairy products with which I am associated as an employee of the Gujarat Cooperative Milk Marketing Federation ... well, I suppose it sounds like a "plug" because it is one!

Do forgive me, Mr. Chairman -- but I made it with a purpose: the Amul brand name has scored repeatedly in many market tests as the best recognized consumer-goods brand name in the Indian market. It is now the property of 825,000 rural milk producers and their families, many of them landless people or small farmers. And that Amul brand name sells Rs. 1.25 billion worth of product annually: that is a daily average of almost Rs. 3.5 million.

That is the kind of thing which we ought to mean when we talk about "producer-oriented policies" or "professional rural management".

I dislike speaking in abstracts -- I don't see myself as a lecturer, at all, in fact -- so, rather than talk about "policy and "management" in the abstract, I will explain how the milk producers, through their Anand Pattern dairy cooperatives, were able to make policy and use professional management in order to create that valuable brand name, "Amul."

First of all, the policies of the Anand Pattern cooperatives are set by their boards of directors, most of whom are the elected representatives of the milk producer members. Each of the boards has, as one of its duties, the recruitment of a professional manager to serve as its chief executive. That chief executive's responsibility is to get the board’s policies executed.

It was that combination which brought about the Amul brand name: when producers who are making their own cooperative's policies combine with professional managers who get those policies carried out, then that can be a very effective combination. It is not always easy. Sometimes, it fails. I shall mention some difficulties and failures shortly -- but I want to first concretize the concept of "producer-oriented policy making".

The best way to ensure that policies are producer-oriented is to let the producers make them. The best way to get those policies implemented is to enable the producers to employ their own professional managers to get them implemented: as employees of farmers, we are of course going to be sensitive to their needs; we are certainly going to see that we help them to build up their markets efficiently -- and we are going to deploy the best technical people in the business, to make sure that our farmers get access to modern science and technology. Let me mention that I do not believe that second-hand, second-best, hand-me-down technology, designed to keep our agricultural sector at a comparative disadvantage with the more industrialized countries is "appropriate technology."

To the professional manager of an Anand Pattern cooperative, ensuring members' access to modern science and technology is not an abstract task. It is as concrete a job as is developing a brand name. Again, it can be concretely illustrated: AMUL -- the first of the Anand Pattern Cooperatives -- initially acquired a dairy plant that was equipped only to pasteurize milk for onward shipment to Bombay. What were we to do when the Bombay Milk Commissioner told us that he wanted an equal supply of milk in both the flush season as well as the lean season? Our buffaloes insisted on producing much more milk in the flush season than in the lean -- they, on their part were "insensitive" to the wishes of the Bombay Milk Commissioner -- as were our milk producers, when he told us to close down our village milk cooperatives on alternate days and let the producers find something else to do with their flush season milk.

We, also, as professional managers, did not like his solution. So we did find "something else" -- to do with our members' flush season milk --

we "found" some modern milk-powder manufacturing equipment and a large, modern, efficient butter churn. We erected a "cold chain" that could move chilled, pasteurized table butter from Anand to Bombay -- and, ultimately, from Anand to every city of India -- in good, fresh condition, of course, to ensure consumer satisfaction and to ensure a remunerative price to the producers for both lean and flush season milk. In other words, access to modern science and technology means -- or should mean -- better margins on poor producers' products.

Better margins enable the cooperative to compete both in procurement and in the consumer market. But, equally important, better margins also enable cooperatives to provide members with the services they need to help them increase their production and productivity. The Anand Pattern dairy cooperatives, for example, provide their milk producers with veterinary care for their animals, artificial insemination using the semen of genetically superior bulls, as well as extension advice on improved animal husbandry. The cooperatives pay for these services out of the margins earned on the milk and milk products that they sell. Without superior technology, this would not be possible -- and the producers would be left without the production-increasing services which they need, because the public exchequer could not afford to provide these services on the scale required.

There is another advantage to this pattern, in which the producers own their own extension system: there is far quicker feedback from the producers to the management. For example, if the cooperative fodder extension officer goes out to a village to test a new variety of green fodder seed and describes some elaborate practices for growing the new variety, the producers may simply explain to him that, according to his own words, the new variety would need maximum labour at the very time when they will be harvesting their main crop -- so it simply "isn't on". Then, if pressed, they will sow, say, 10 square meters -- and three of four months later, they may well report to him -- with some amusement -- that they followed a much simpler set of cultivation practices than those which he had advocated, obtaining equally good results or, quite possibly, better! The extension officer reports this to his manager -- and the improved

cultivation practice is then fed back directly into the cooperative's extension system.

This close rapport between extension advisers and producers is what all extension systems aim at, but the relationship seems to develop more strongly and more rapidly in our Anand Pattern cooperatives. However, it is true that the first of these cooperatives, Amul, evolved its original structure over a period of some 20 years. The next, Mehsana, took some 10 years -- and, by the time Mehsana had stabilized, the National Dairy Development Board had been formed -- "NDDB," as it is now called. The NDDB was formed primarily to replicate the Anand Pattern: the main objective of its first programme, Operation Flood I, was to help create 18 Anands in the hinterland milksheds of Bombay, Calcutta, Delhi and Madras. Actually, between the time when Operation Flood I was launched in 1970, and December 31st, 1979, the number of Anands grew from six to 39 -- and the number of village milk producers' cooperatives grew from 1,500 to over 11,000. These cooperatives now serve some two million milk producers and their families -- and that number is scheduled to rise to between 10 and 15 million, under Operation Flood II during the second half of this decade.

In other words, by working with the Anand Pattern dairy cooperatives, learning from their experience -- and, indeed, drawing considerably on their experienced staff -- NDDB has developed into an institution capable of replicating the Anand Pattern in the field of dairying. At the request of the Government of India, it is now attempting to develop an effective methodology for replicating this pattern in the oilseeds and vegetable oils sector.

Milk and milk products are, after all, only 9 to 13percent of consumers' food expenditures. So there are many more commodities which could be covered by new "NDDBs," set up for, say, fruits and vegetables, fish, meat and eggs, pulses, sugar cane and sugar beets -- not to mention jute and cotton. For each of these crops, or groups of crops, a new NDDB could help producers to get the processing and marketing functions into their own hands, eliminating speculative and exploitive

middlemen -- and providing to producers the inputs and services that they need to increase production.

Judging from experience, the adoption of this single-commodity cooperative approach on a national scale is the most promising path which the country can follow, in order to achieve genuine rural development: rural development that really will *reach* the rural poor.

Sometimes, programmes are said to "reach the rural poor" when all that is meant is that the rural poor hear about those programmes! But the Anand Pattern dairy cooperatives really do provide remunerative employment for poor milk producers' families. Two years ago a survey was made of the original Anand Pattern cooperatives in Kheda District. This survey showed that 84percent of the rural population were landless or operating less than 5 acres of land. The same group comprised 82percent of all milk producers and of all milk cooperative members -- and 63percent of the elected cooperative managing committees were drawn from this group. As many as 67percent of Scheduled Castes and Tribes were cooperative members, all but 2percent of whom sold milk to the cooperative.

I do not know whether these are “agricultural statistics” or “cultural statistics,” Mr. Chairman. Certainly, however, they indicate the social as well as the economic impacts of a village institution which is equally accessible to all, regardless of caste and creed. When the milk producers line up to sell their milk, all have to take their turn. So-called higher caste milk producers may well find themselves standing in line behind a "lower caste" milk producer. Similarly, the veterinary doctor's services are available on an equal basis to all. This is what gives the poor confidence in the system. This confidence appears to be contagious. The same survey, which I have just quoted from, also showed that 43percent of milk cooperative members were also members of other cooperatives. In other words, when the rural producers see that they can manage their own milk business and get equal access to the market through their cooperatives, then they naturally desire to do the same thing with the other commodities that they produce, especially as the milk cooperatives also

give them equal access to the inputs which they need in order to increase their production and productivity.

Increases in agricultural production, however, are not an end in themselves. Rather, they are a means of enabling the rural population to apply their own knowledge and energy to the task of increasing their productivity and incomes. This can never be achieved in our almost 600,000 villages if it is attempted from above or outside the rural community. The key to the problem lies in enabling people in the villages to become aware of the fact that they can get the instruments of development into their own hands -- and erecting an institutional structure which puts the instruments of development into their hands.

This is the most important function of the Anand Pattern cooperatives. When the cooperative's veterinary doctor visits the village, week after week, even the poorest milk producer finds that doctor is just as keen to treat her animal as he is treat a rich farmer's animal. She also sees the veterinary doctor often curing animals of diseases previously considered incurable. She finds that artificial insemination enables her animal to produce a genetically superior calf. In other words, the people of the village become aware that they really can get hold of the tools of modern technology and science -- and use those tools to increase their productivity and improve their incomes. At the same time, they see that their village milk cooperative's managing committee *can* take decisions -- and that each member's vote *does* count in the election of that committee. Moreover, chairmen of village milk producers' cooperatives are elected as directors of their district's cooperative union -- and chairmen of district unions are elected as directors of their state federation. So, at each level, the producers see their own representatives making policy, taking decisions. A desire to be re-elected, if nothing else, motivates these elected representatives of the producers to get things done. The successful ones learn how to get results out of our unwieldy, outdated systems of administration. So the producers, through their cooperatives, learn how to make the institutional structure work for them. Their cooperatives, in fact, become one of the more functional parts of the institutional structure.

In brief, creating an *awareness* that the village community can use modern technology to improve its productivity and building an *institutional structure* through which the village community can effectuate this awareness: that is the most important function of the Anand Pattern cooperatives.

With the advent of awareness, on the one hand, and of an institutional structure which can effectuate that awareness, on the other hand -- then the rural community involved can use these newly acquired tools to obtain the *social* services that they need: to establish a proper health care system, for example, coupled with supplementary nutrition for mothers and infants in need, as well as improvement of environmental sanitation and of drinking water supplies ... whatever may be each rural community's priority. In Kheda District, for example, the Anand Pattern cooperatives are sponsoring a programme that has, at its core, the aim of "family viability": as each village joins the programme, one or two women of the village are trained in basic health care and infant day care; the village is visited each week by a mobile clinic, staffed with trained practical nurses; and poor families, especially those in which infants are undernourished, are helped to become more productive by learning new skills, or perhaps by acquiring a buffalo or a cow. This programme is still in its infancy. It is a difficult programme to administer. But the confidence of the participating villages augurs well for such social welfare programmes, based on the infrastructure of the milk cooperatives and on the confidence which they have created in the rural population.

Indeed, the growing confidence of the rural population in its ability to tackle its own problems is comparable to the confidence one happily observes in our growing population of young graduates and technicians -- and this confidence contrasts strongly with the negativism and cynicism which pervades our older, so-called elite. But, before turning to such problems, allow me, Mr. Chairman, to suggest that there is one more set of opportunities and challenges which could be tackled by the NDDB Anand Pattern approach: there are a host of multi-disciplinary -- and, in some cases, multi-state -- jobs to be done, to which our present ways of

doing things seem unsuited. Rehabilitating the productivity of the Himalayan reaches, for example, is an urgent task. Forests must be restocked, vegetative cover must be established, often on steeply sloping valley hillsides -- and all this must be done in ways that enable the rural people to improve their productivity and incomes without coming into conflict with the re-establishment of a viable ecological system.

No doubt, many hard-to-find skills and techniques will be needed. But, above all, the confident participation and support of the rural population involved will also be needed. Could we not apply the experience of Operation Flood and the Anand Pattern cooperatives to such tasks?

The optimal management and development of river basin resources may be another task which could better be tackled this way, especially in cases where more than one state is involved. This could well enable river basin resources to be deployed more productively for provision of power and irrigation, while also ensuring that the outputs enable the rural poor to become more productive through remunerative employment. No doubt, such programmes should also include a practical approach to energy conservation in the village: the use of agricultural wastes and solar energy for local provision of power, for example, may well prove a more practical and economic proposition than extension of electricity grids, where the capital cost per kilometer of line is not justified by the increased productivity to be derived from such extensions of the grid.

No doubt, if we were to tackle multi-disciplinary, multi-state problems this way, there would be technical problems. New technologies would have to be evolved. But the country has invested wisely in the education and training our youth in modern science and technology. We do not lack the knowledge and human resources required to enable our rural population to become more productive: to become a vast, productive asset, in fact. What, then, holds us back? It is true, no doubt, that the industrialized countries look with some fear at this slumbering giant which is India, wondering what may happen if we ever come to realize the productive potential of our largely rural population, of our sun-

rich fields -- and of our vast army of technically trained young people. If this giant does wake up, if we do harness our resources, no doubt the present order of international production -- and international trade in agricultural commodities -- would be vastly changed.

We have the energy of the sun, we have the creativity of our rural population, we have the waters of our rivers, we have the determination and confidence of our youth. What we lack is the confidence of both our youth and our rural population in the existing order: especially, they no longer trust or respect the so-called elite. In this, their instincts are right. Our elite has become work-shy and self-serving. It is concerned with status and factionalism, with preserving and increasing its perquisites and privileges. It spouts the facile rhetoric of rural poverty in order to maintain its grip on urban affluence.

No wonder the villages distrust all these urbanized gentry who jeep themselves into the village, complete with polyester pants and thermos flasks of boiled water, exhorting them to produce fewer babies and more food at exploitive prices, for the benefit of their urban brethren. They deliver these messages to the village -- and hastily jeep their way back to their urban environment.

Back in that familiar environment, they are busy at recruiting fresh graduates and technicians, who are then taught the elite's work-avoidance ethic as quickly as possible. Ideals, diligence and the desire to create change are remorselessly eroded. Paper is substituted for action. Conferences are substituted for work. Perquisites are substituted for truly earned rewards -- and there are no penalties for corruption, laziness and divisive rabble-rousing.

Yet we all know, in our heart of hearts, that nothing good happens in this world without work. I have cited the structure of the NDDB and the Anand Pattern cooperatives today because that is one structure which I know -- and it is a structure which facilitates work: work by policy makers, by professional management and by trained, technical cadres -- especially, by young, technically trained people -- all in the service of our

rural population. That population, in turn, when it sees professional managers and technicians actually working, regains its confidence that "the system" really is one which can help them to find remunerative employment, to create practical health care systems -- and to make the villages better places to live in.

Mr. Chairman, what better occasion could there be on which to say this? I do not usually "lecture" -- and I hope that I have not sounded too much like a school teacher today. None of us alone has a panacea for the challenges of rural productivity. Surely, there is no single answer. But it did seem to me to be appropriate, on an occasion when we pay tribute to the memory of Dr. Rajendra Prasad, that the overwhelming importance of work, as such, should be re-emphasized.

If we work, new patterns of organization will arise, linking the mutual interests of our urban and rural populations. New norms will become common, creating mutual trust and respect between our urban and rural populations, between our educated youth and our older leadership.

Given institutions which foster such mutual trust and confidence, through a shared work ethic, we need not doubt that our society can enable our rural population to realize its truly great potential for increased productivity, making a better level of living available to all.

Thank you.

Institution of Engineers (India)

61st Annual Convention

Hyderabad, Andhra; Pradesh
February 9, 1981

Sixth Bhaikaka Memorial Lecture:

Bhaikaka, the root -- rural engineering, the branch

Shri Ramachandran, President of the institution of Engineers (India), honoured guests--

When the President of the Institution did me the honour of writing to tell me that the Institution's council wished him to invite me, on its behalf, to deliver this, the Sixth Bhaikaka Memorial Lecture, my surprise and pleasure at being so honoured was, I must admit, tinged with apprehension: firstly, because I have not practiced engineering for so many years, as I have been employed as a manager of a rural milk producers' cooperative for the last thirty years or so, and I fear that I have forgotten whatever engineering knowledge might have entitled me originally to be a Fellow of this respected Institution. But there was also another, equally strong reason for my apprehension, which was quite simply that I once had the honour to know Bhaikaka and his work, as I worked next door to him -- and I apprehended that I could not really do justice to his memory. Then, however, I realized that I had a duty to try to honour his memory appropriately, by using this occasion as I believe Bhaikaka would himself have wished: namely, to start the process of finishing what I believe he would have considered a piece of unfinished business -- that is, the founding of a new, formal branch of our profession, which I shall propose today be called "Rural Engineering".

I hope that this Institution will agree that a Bhaikaka Memorial Lecture is an appropriate vehicle whereby to "launch" Rural Engineering as a new branch of engineering. For if, as is often said, the function of the scientist is to add to our knowledge, while the function of the engineer is to apply that knowledge to practical problems -- then Bhaikaka was both a

scientist and an engineer. He certainly added much to our knowledge -- and he applied his knowledge to very practical problems.

Bhaikaka did not merely say that engineering is "the application of science to the conversion of resources for the benefit of man" -- in fact I never heard him indulge in such grand sounding generalities. Instead of lecturing people about his principles, he concentrated on practicing them. And turning them into useful realities. As is the case with all those who are fortunate enough to be born engineers, Bhaikaka intuitively saw problems in terms of the improved, scientific application of available resources. When Sardar Vallabhbhai Patel plucked Bhaikaka from his beloved city of Ahmedabad and asked him to apply his knowledge to the benefit of the rural people in the Charotar Tract, he addressed himself to the task set for him by the Sardar with a sure, intuitive perception that the nub of the problem of rural poverty was then, as it is today, the nation's need to enlarge the resources available to our villages -- and to improve the conversion of these resources into the goods and services that rural people need.

Sardar Vallabhbhai Patel saw the task of achieving independence not only as a political task -- he knew that our rural majority could never become truly free until they were freed from the extortion of money-lenders and middlemen as also from the indignity of bias based on social abuses of privilege and prestige by an elite without a conscience. In other words, the Sardar saw independence not only as a political state, but as a social and economic state -- and he chose Bhaikaka as one of his instruments for translating this social and economic vision of freedom into a practical reality for our country's rural majority.

Inspired by the Sardar, Bhaikaka set about building institutions that would increase the human and material resources available to the people in the villages and which would also enable the rural population to make better uses of those resources. He built rural institutions for research and teaching -- and he built rural factories, literally to produce more for the farmers.

In short, Bhaikaka added to his engineering skills a skill which can be described as "institutional engineering," which he applied with devotion to the betterment of rural people's lives.

Clearly, there could be no more fitting monument to Bhaikaka than the establishment of Rural Engineering as a branch of the profession he practiced so brilliantly, devoted to the application of engineering skills in our villages. This is the proposal that I shall outline here today. I do so with some hesitation, partly because I share Bhaikaka's dislike of the idea of "lecturing" anybody -- and partly because I am very much aware of the limitations of my own engineering knowledge, particularly before an audience such as this. I have the temerity nevertheless to propose the establishment of Rural Engineering as a new branch of our profession, despite my own limitations, because I do believe that it is something that Bhaikaka would have wanted -- and that he would have done the job himself had he lived a few years longer.

Part - I: Bhaikaka, progenitor of rural engineering

Before I come to the main outline of my proposal, I should perhaps explain how it came about that I had the privilege of seeing Bhaikaka at work. This will serve also to explain why I refer to him as the "progenitor of rural engineering".

Sardar Vallabhbhai Patel was born and raised in a village called Karamsad, close to Anand, which was then a small town in the fertile area of the Gujarat Plain known as the Charotar Tract. Sardar Patel was an unusually wise chooser of people to build the institutions which his vision of independent India required. He had seen Bhaikaka's drive and practical engineering skills in Ahmedabad, where Bhaikaka had put into effect what was, in those days, a very advanced approach to town planning, one that included provision of adequate water supplies and electricity, as well as the broad roads of new Ahmedabad, with its well laid out zones for educational institutions, for industry and for commerce.

Sardar Patel saw that Bhaikaka was the man that his beloved Charotar Tract needed. So he persuaded Bhaikaka to leave Ahmedabad and to stay at Anand.

The farmers of Charotar wanted their institutions of learning: Institutions suited to their needs. So Sardar determined that, first, there should be a college of agriculture at Anand, then a college of science -- and then a college of engineering. He gave Dr. Maganbhai Patel, a distinguished agricultural scientist, the task of building the college of agriculture and he gave Bhaikaka the responsibility for building the science and engineering colleges -- for he knew that Bhaikaka would carry out this task so that the educational institutions which the farmers needed would have a proper rural bias.

In the same way -- and with the same good judgment -- Sardar chose Tribhuvandas Patel and gave him the responsibility of building the milk producers' cooperative based at Anand.

When I -- quite by chance -- was posted by the Government of India to Anand in 1950, Mr. Tribhuvandas was the Chairman of the Kaira District Cooperative Milk Producers' Union, now better known by its brand-name, "Amul". When I obtained my release from Government service, Mr. Tribhuvandas persuaded his cooperative's board of directors to appoint me as their manager. That is how I came to have the opportunity to see, at close quarters, these three men the Sardar had selected at work. I came to realize that the greatness of the Sardar was his ability to choose men and to apply their special skills constructively to the task of nation building.

And they did work! Bhaikaka convinced the farmers of Charotar that, before they had an engineering college, they should have a science college -- and, ultimately, he built Vallabh Vidyanagar University, which I believe was the first rural university to be built in independent India. As part of the same master plan, Sardar Patel established an Agricultural Institute at Anand, of which he became the first Chairman.

You may be wondering how all this institution building, which is now part of independent India's early history, can be relevant to our concerns today. It is relevant not because Bhaikaka literally did "build" the physical plant of Vallabh Vidyanagar and related institutions. What is relevant to us today is the way in which Bhaikaka based the development of these institutions on the active support of the Charotar farmers themselves.

For example, when the farmers said that they wanted these institutions of learning, he called five hundred of them together and asked them to contribute their land for these projects. He said that if all of them gave him their land free he would give back to them half the land after developing it fully with roads, water supply, electricity and drainage. He explained that this half would be worth more than double its original value, so that all of them would gain by donating to him half their land!

At the same time, Bhaikaka was too practical to believe that great institutions would be developed entirely out of the farmers' limited resources. So he established the Charotar Vidya Mandal to build the rural university -- and the Charotar Gram Udyog Sahakari Mandli, a cooperative venture to build rural industries. Then, too, he collected around him dedicated and able men to execute this task. But while he gave these men every facility, he himself set up his office under a mango tree.

Thus, Bhaikaka brought together the support and the work of the farmers and his own very significant engineering skills, while also ensuring the autonomy of his new institutions by endowing them with income from viable, productive enterprises, which he established right in the heart of the Charotar tract.

That was a real piece of "rural engineering"! It was a brilliant venture -- and one which makes it appropriate, I believe, to name Bhaikaka "the progenitor of rural engineering."

Part - II: A rural institutional structure: the necessary condition for the practice of rural engineering.

Just as we can draw lessons from the way in which Bhaikaka developed his institutions, I believe that we can also draw some important lessons from the way in which Tribhuvandas Patel developed the institution for which Sardar had made him responsible: the Kaira District Milk Producers' Cooperative Union.

The basic approach adopted by Mr. Tribhuvandas was to first establish milk cooperatives in the villages. These cooperatives were literally the "base" of the entire venture. Mr. Tribhuvandas insisted that each village cooperative should be open to all milk producers in the village, regardless of caste, creed or community. He placed equal emphasis on the cooperative principle of "one man, one vote," no matter what the member's social and economic status might be.

All members of each village cooperative elected their own managing committee and the elected members of each managing committee elected their chairman. The village cooperatives were all affiliated members of the Kaira District Cooperative Milk Producers' Union -- and the union's directors were elected from among the chairmen of those village cooperatives. In other words, the milk producers' cooperatives in the villages were not only the union's "base," but their elected representatives were also literally in command of the union. This is how Mr. Tribhuvandas carried out the task which Sardar had given him: namely "to put the milk producers in charge of their own milk business".

Once he had started this process of developing the cooperative base in the villages, Mr. Tribhuvandas's next step was to secure for his members the services of professional managers and technically qualified personnel, such as dairy technologists and engineers. Thus, the cooperative became the rural milk producers' own instrument for obtaining the services of professionally trained personnel who, up to that time, had worked primarily for urban enterprise and government.

As I mentioned earlier, I had the privilege of being the Kaira Cooperative's first manager. When I saw the magnitude of the task, I sought the assistance of a fellow student of mine, Mr. H.M. Dalaya, whom I

knew to be a brilliant dairy technologist. We were most fortunate in obtaining his services for our cooperative. Today, he is the Managing Director of Amul.

Back in those early days, however, we soon found that we had first to learn the art of cooperation from our chairman, Mr. Tribhuvandas. It took us some time to appreciate the skill with which he could draw together the people of a village and imbue them with the desire to work together, through their village milk cooperative, for their economic and social betterment. Once we started to understand how our Chairman had developed the concept of making the cooperatives an instrument for social and economic change in the villages, we technical employees of the cooperative also learned how to enable the cooperative to be a better vehicle for making our skills more useful to our milk producer members.

Amul hired its own veterinary doctors and put them into jeeps -- which became know as "mobile veterinary clinics" -- so that each village milk cooperative could be visited by a veterinary doctor once a week. But this reaching out of professional veterinary services to the villages is only one side of the coin. Of equal importance is the development of para-veterinary personnel in each village. We found that the village milk producers could select a person, usually from their own village, and that the cooperative's veterinary doctors could train that person in "animal first-aid". This trained "animal first-aid worker" would then be available, in the village, day-in and day-out, to treat the producers' milch animals' minor ills and chills, cuts, broken horns and other minor maladies. This para-veterinary service proved to be a very economic adjunct to our professional veterinary doctors' work. So much so, in fact, that when the cooperative decided to establish its own artificial insemination network, one person, again from the village, was trained to be that village's "lay artificial inseminator." We have found this to be a very economic and decentralized way of establishing a comprehensive artificial insemination service, one that ensures the availability of an inseminator in each village whenever a milch animal comes into heat.

The principle that can be derived from this experience is that Anand Pattern cooperatives are not only a vehicle whereby rural producers can hire their own professional personnel, but also that these professional personnel can greatly multiply the impact of their skills by providing training to the farmers themselves. The people in the villages so trained provide invaluable "feedback" to the cooperative's professional staff, reporting outbreaks of diseases, monitoring the timing of milk collection trucks, as well as handling innumerable other important tasks.

These principles, on which the Anand Pattern cooperative is based, are now being extended to many more fields than milk. The Government of India has now made it a policy that rural producers should have their own institutions to handle the procurement, processing and marketing of all their produce cooperatively, including, for example, vegetable oil, cotton and, now, fruit, vegetables and jute. Perhaps of equal relevance to our concerns here today is an interesting extension of the Anand Pattern in another direction. The National Dairy Development Board and Amul are now engaged in promoting a maternal and infant health care service, through an autonomous foundation set up for the purpose. The infrastructure of the village milk cooperatives and their cooperative union will be used to provide the services of trained nurses, who will visit the villages once weekly and who will train a woman from each village to be a "village health worker".

The same foundation, called the Tribhuvandas Foundation after its founder, Mr. Tribhuvandas Patel, also includes in its objectives the improvement of the village environment; creation of productive and remunerative employment for families whose income are inadequate; and the establishment in the village of a young farmers' centre, where young men and women can obtain training in improved methods of cultivation and milk production.

Now, it is interesting -- and perhaps rather sad -- that, when the Tribhuvandas Foundation wanted to start on the task of improving the environment in the villages where it operates, it had first thought to recruit some young engineers. The question arose: "What kind of

engineer should the foundation recruit?" What the foundation needed, it believed, were some well-trained young graduates in rural engineering. But no such graduates exist. There are no graduate programmes in rural engineering, as far as I know, whether in this country or in any other.

Thus we have a paradox. In this case, the infrastructure necessary for effective deployment of rural engineers is already established. There are already Anand Pattern milk cooperatives in 40 districts and that number will probably grow to at least one hundred districts by the end of this decade. At the same time, the Anand Pattern is spreading into even more districts to handle the procurement of oilseeds, processing them, and then marketing the vegetable oil and cake thus produced. No doubt, the producer members of these cooperatives will want their own "Tribhuvandas Foundations," so that they can obtain the medical services they need, especially for mothers and infants, as well as other professional services for income generation and improvement of the village environment. But when it comes to finding young engineers who could be deployed through this rural infrastructure, we find that there is no course of education and training which equips a young graduate to serve village people in this way.

That is why I am taking this opportunity to propose that rural engineering be established as a new branch of our profession.

Part - III: Rural problems as engineering opportunities

Defining a new branch of a profession is a difficult task. I doubt whether any one individual is capable of doing it by himself. So I certainly will not claim that what I can say about rural engineering is in any way definitive.

On the contrary, I believe that the best way to approach the task of deciding what should be the content of rural engineering is to look first at the problems that the young rural engineers will have to tackle in the villages. These problems can then be viewed not as problems, but rather

as opportunities for young rural engineers to apply their skills for the benefit of rural society.

Traditionally, academic courses in engineering subjects are supposed to qualify the young graduate for a number of functions. These are usually described as research, development, design, construction, production, and the operation as well as management of engineering processes. Most of us will agree, however, that we actually learn to carry out these functions only when we gain the practical experience that enables us to "learn on the job".

One can see intuitively, however, that our young rural engineers will have to be capable of carrying out most, if not all of these engineering functions.

Perhaps I should say at this juncture that I am not making yet another call to redesign the bullock cart! That call has been made so often that it has unfortunately become a cliché -- even though a truly improved bullock cart would be a blessing to most of our rural people.

However, I believe that the scope for rural engineering in our villages is far wider than the problems involved in improving the bullock cart. After all, the very substance of engineering is the improved use of energy and materials -- and it is the need for improved uses of energy and materials that underlies so many of the problems that beset our villages today.

Probably one can best start to define the scope of rural engineering by looking at examples of the problems most commonly encountered in our villages. Usually, these problems have to do with the improvement of the environment, the provision of utilities, the procedures of cultivation, as well as the exchange of communications, of goods and of services between the village and the outside world.

The most common environmental problem, for example, in most villages, stems from the inadequacy of traditional systems for disposal of

human and animal wastes. The traditional methods of dealing with these problems have become inadequate in the face of the doubling of our human population since Independence. The treatment of human and animal wastes in "gobar gas" production units is frequently advocated, of course. But so far as I know, these units cost some Rs. 400 to 600 per human served and only a few of our rural population can afford such an investment. To tackle this set of problems, the young rural engineer will need a good knowledge of sanitary engineering, as well as of fermentation processes and the biochemistry that underlies them.

To take another example, utilities: ever since Independence we have heard about the need for rural electrification. Yet at least half of our villages remain without electricity and, I am told, the point has now been reached when a kilometer of rural electricity supply line costs as much as Rs. 7,500. In many, if not a majority of our villages, the demand for electricity and the opportunities for using it productively are too small to permit a reasonable return on an investment of Rs. 7,500 per kilometer of line. Some of our young engineers will have to start looking afresh at the task of developing small-scale generating units of low capital cost. Perhaps an extension of a gobar gas system will ultimately provide the answer. Certainly, any young rural engineer would need to be well grounded in physics with a firm practical understanding of heat-transfer processes and thermodynamics.

It is difficult to choose a single example from the very many problems connected with procedures of cultivation. A good job has been done, I understand, on improvement of traditional ploughs. But the motive power source which pulls most of our ploughs -- that is to say, the draught bullock -- is often a "tractor" which has to be kept idle for one or two hundred days of the year. In these days of population pressure on the land and relative scarcity of fodder and forages, one cannot help but wonder how long our agricultural systems will be able to sustain a source of motive power that has to be "fueled" twice daily, even though it is kept idle for so many days of the year. There is no doubt in my mind that, sooner or later, our young rural engineers will be pressed by the farmers

to help them find other forms of motive power which, when idle, can simply be switched off.

Finally, the exchange of communications -- and of goods and services -- between the village and the outside world: the most common factor in such problems is probably that of providing all weather roads. The traditional methods of road building, still in vogue in our country, are very costly by village standards. It is no doubt true that "cheap labour" is all too readily available in many villages for many days of the year, simply because there is too little productive work for so many rural people. But this still leaves the problems of materials. Gravel and broken stones are costly to move over significant distances. Tar is usually a derivative of coal -- and coal is not a renewable resource. Ultimately, the problem of road construction boils down to yet another example of the need to find better ways of using locally available materials. It may well be that the technique known as the "compacted soil technique" could be developed further for use in areas where road construction would otherwise call for long-distance haulage of stones and other materials. These and a host of related problems indicate that our young rural engineers will need to have a sound knowledge of the structure and composition of soil. After all, in many of our villages the only materials which could be said to be plentiful are the rather infertile forms of mud, which continue to be the only building materials in most of our villages.

I have described briefly a very few of the problems which professionally educated young rural engineers should be qualified to tackle. Even from this short list one can intuitively see that the approaches taken by Bhaikaka, Maganbhai and Tribhuvandas Patel will doubtless prove relevant, indeed essential. Bhaikaka’s education-cum-industry approach, for example, suggests itself for the education and practical training of the young rural engineers. Mr. Tribhuvandas's practical approach to letting the farmers' own organizations handle the processing and marketing of the farmers' produce, and the marketing of technical inputs to enable farmers to increase their production -- including, especially, the Anand Pattern method of implanting new technologies in our villages by using professionals to train village people in modern

techniques -- all these approaches suggest themselves as practical means of both training young rural engineers and also of deploying them effectively thus enabling them to multiply the impact of their skills in our villages.

Part IV: The functions and content of rural engineering

As I have said, I do not believe that any individual can single-handedly specify the functions and content of a new branch of our profession -- and I shall not attempt anything so ambitious here. Instead, I shall only briefly outline the subject -- on the basis of my experience and observation -- in the hope that this may provide a basis for detailed examination of the subject by others far more qualified for the job than I.

First, then, the functions of rural engineering. The rural engineers we are looking for must be educated and trained to work in the villages with the people of the villages. There will be a need for the research-and-development function, no doubt, but there are already many institutions in the country doing "R & D." So far as rural engineering is concerned, what is lacking is practitioners: young professionals, who are educated and trained to be the link between engineering institutions and the villages.

We can draw a lesson here from agriculture. There is strong evidence suggesting that when the western countries invested in institutions for agricultural research -- and in costly extension systems, with trained agents to take the results of agricultural research to their farmers -- things did not really work out the way they expected at a all! For the first fifty years, most of their significant advances in agriculture came from the farmers themselves! Competent extension agents, by talking with the farmers and observing their fields, identified crop varieties and cultivation practices used by the more successful farmers. The research institutions then worked to make these improvements available to wider sets of farmers, using the extension system to disseminate them. It was only after about fifty years that significant innovations in crop varieties and cultivation practices originated in the agricultural research institutions of those countries.

We can expect the same sort of development to take place in the early years of rural engineering. Young rural engineers, working in our villages and talking with farmers, will observe, say, a better-than-usual field latrine -- and because they are educated and trained in the relevant sciences and technologies, they will understand why these things work better. They will report the news back to the concerned R & D institutions, where the improved technology will be analyzed and generalized. Then the network of rural engineers, working in the villages, will disseminate these improvements to increasingly wider sets of villages.

One can see, therefore, that rural engineers -- if they are to play their part in this process -- will have to be keen observers and good communicators. Also, their education and training will have to equip them for practical work in the villages, including the design, construction, production and operation of improved technologies, systems and materials. R & D will continue to be done by the synthesis of specialists' knowledge -- and rural engineers will provide invaluable feedback to R & D institutions -- but the rural engineers will be practitioners. It is therefore clear that their education and training will have to cut across the traditional specializations of engineering.

This means that rural engineers will have to be unusually well grounded in the basic sciences of physics, chemistry and biology, as well as in mathematics and statistics. These subjects will have to be done in two ways: (1) by placing great emphasis on the unifying laws of science, such as the law of conservation of energy -- laws that teach us how to synthesize our knowledge of physics, chemistry and mathematics; and (2) by providing these students with ample opportunity for sustained practical field work, in the villages, under the guidance of experienced field workers.

This emphasis on field work leads one to another conclusion on the content of the curriculum for rural engineering: that is, the curriculum will have to include more of the social sciences than is usually included in programmes of engineering education. There is, after all, a significant

body of systematized knowledge of rural society, its structure and dynamics -- and there is a growing body of knowledge of rural management. It would be wrong if we were not to expose young rural engineers to this knowledge, so that they will be better equipped to understand the society in which they are to work -- and so that they will be more skillful in communicating with rural people, thereby enabling them to be more effective in the feedback process and also more effective in dissemination of new technologies.

I have only limited experience in the organization and conduct of teaching programmes, but I would guess that the first part of the rural engineering curriculum -- concentrating on the basic subjects of physics, chemistry, biology, mathematics and statistics, as well as rural social studies -- will have to be a three-year programme for students entering immediately after taking their higher secondary examination. Probably, it could be reduced to one or two years for students entering after they have obtained a bachelor of science degree.

After they have completed this preparatory programme of basic studies, rural engineering students will be prepared to study the engineering sciences of materials, machines, thermodynamics, transfer and rate processes, electrical science as well as irrigation and sanitary engineering. Also, to prepare them for the coming age of the micro-chip, students of rural engineering will have to be taught at least enough about information processing and computerized analysis to enable them to know what can be done with computers -- and how such analysis can help them as they work in the villages.

During the first part of the programme -- concentrating on basic studies -- and also, especially, during the second part of the programme -- concentrating on the engineering sciences -- rural engineering students must be given opportunities to do supervised field work in the villages, in order to help them relate their studies to their future responsibilities.

Such field work is difficult to organize. Too often, in other fields, it is more tourism than instructive. In order to make sure that it is instructive,

field work organized for rural engineering students must enable them to study a practical problem in a village, to experiment with original alternative solutions and to analyze their experimental results.

These practical exercises in the field need not -- and probably should not -- be "sophisticated." On the contrary, it is often the problems that appear simplest which prove to be most intractable in the villages.

For example, in the Charotar Tract, there are hardly any stones in the soil, to a depth of two or three hundred feet. This means that the milk producers find it difficult to construct well drained stalls for their milch animals. Over time, the ground around the stalls becomes permeated with the animals' urine and this pollutes large sections of the villages.

Yet, over all these years, we have never found an economical way of dealing with this problem. Amul did produce pre-cast disassembled concrete stalls -- but the cooperative could not afford to give them to the producers and most producers could not afford to buy them. This is one example of the type of problem that rural engineering students should tackle during sustained periods of supervised field work, work which will be instructive to their supervising faculty, also.

Altogether, I would expect field work in the villages to take up, say, three to four months during each academic year of a rural engineering programme. Of course, before any such syllabus could be finalized, many important decisions would have to be made. For example, what should be the place of soil chemistry in a rural engineer's education, considering the complex interactions between the chemistry of soils and plant nutrients on the one hand, and the mechanics of cultivation procedures on the other? How such issues could be resolved I shall propose a little later. Let me first briefly summarize my own tentative conclusions on the functions and content of rural engineering, viewed as a new branch of our profession:

(1) Rural engineering cuts across traditional engineering specializations;

(2) Rural engineering therefore requires a very strong grounding in the basic sciences;

(3) Rural engineers will have to be familiar with the social sciences which relate to their work; and

(4) Rural engineers will have to be committed to the betterment of rural life and confident of their ability to use problem-solving logic for the purpose of improving the living conditions in our villages.

Part V: Developing a programme in Rural Engineering: a suggested agenda

As I have said, I do not believe that any individual can single-handedly specify the functions and content of a new branch of the engineering profession. What I have tried to do on this occasion is simply to demonstrate the need and opportunity for rural engineering to become a new branch of our profession.

This is not a mere academic exercise. Our rural people are on the march. They are no longer willing to accept a position that is subservient to the urbanized minority in our country. Anyone who is fortunate enough to be a qualified engineer in this country is, by definition, a privileged member of the elite. Surely, it is high time that we engineers should make a more determined effort to be more useful to our country's rural majority?

Our training and education as engineers give us some practical advantages in tackling the task of establishing a subject, such as rural engineering, as a new branch of our profession. For, as engineers, we are accustomed to "learning by doing." I personally believe that, if a competent and qualified set of scientists and engineers addresses itself seriously to the task, they could quite quickly develop at least a pilot programme of education and training in this new branch of our profession, which I have suggested may be called Rural Engineering.

As I have had the temerity to make this proposal, Mr. President, may I cap it by suggesting that our Institution of Engineers could well consider setting up a small panel to consider how best to construct a curriculum in Rural Engineering. The Institute could then make an appropriate recommendation to the Government of India and the Indian Council of Agricultural Research, who I am sure would welcome it.

I am not suggesting that any new or grandiose "institution" should be erected for this purpose. The country has already made huge investments in institutions of research and teaching. Instead of building any more institutions, at least for the time being, I believe that a somewhat different path could be considered, using existing institutions.

For example, to my own knowledge, thanks to Bhaikaka there is already in Vallabh Vidyanagar itself an excellent engineering college. We also have nearby, at Anand, the College of Agriculture and the Institute of Rural Management. I wonder whether, if suitably approached, the engineering college at Vallabh Vidyanagar might consider establishing, within the college itself and using its existing facilities, a pilot programme in Rural Engineering. The faculty members involved, might, perhaps, like to draw on the resources of the College of Agriculture and the Institute of Rural Management for that part of the pilot programme's content that will draw on the existing body of knowledge in the social sciences, management studies and agricultural sciences.

The supervised field work of the students could no doubt be organized with the aid of local cooperatives such as "Amul," and with integrated rural development projects, such as that of the Tribhuvandas Foundation.

Of course, there may well also exist, in other parts of the country, appropriate configurations of colleges of engineering and institutions working in the social sciences and management -- and where there are also programmes of rural development going on in the villages which would provide opportunities for constructive field work for students of

Rural Engineering. Perhaps pilot programmes in the subject could be started in other such places where the required facilities also exist.

Certainly, I am confident that if the concerned authorities get together, a useful pilot programme in Rural Engineering could quickly be established. It would be very much in the tradition of Bhaikaka -- and a fitting, living monument to him -- if the first such programme were to be established in the Engineering College of Vallabh Vidyanagar, which Bhaikaka established with so much loving care and professional skill.

May I close, Mr. President, by proposing this agenda for the development of Rural Engineering as a new branch of our profession. May I also propose that our Institute of Engineers may take the lead in implementing this agenda, so that we engineers may make our skills more useful in the villages, for the betterment of the lives of our rural population.

Thank you.

LESLIE SAWHNY PROGRAMME OF TRAINING FOR DEMOCRACY

Public Service by Private Persons

Bombay
November, 1981

Shri J.R.D. Tata, Chairman, Members of the Leslie Sawhny Programme, honoured guests...

Introduction

When Shri Minoo Masani first sounded me out informally about making this address, I of course felt greatly honoured to receive such an invitation and I therefore said that I would accept his invitation. A little later, when Shri Masani wrote to me about it, I noted that his letter included a fairly strong hint that I should talk about "public service" and by implication, about my own work as a form of "public service."

My first reaction was that I should hastily reply that I am not at all a public servant. I am merely a professional manager, who happens to be employed by 8.6 lakh farmers. Then, fortunately, I thought about the proposition a little more carefully -- and I concluded that perhaps, after all, I am some kind of a public servant -- and even that rare and fortunate one who has actually been permitted to serve.

What is public service?

After all, "public service" means no more than working for the benefit of society at large, rather than for any narrowly defined set of interested parties or persons. But I think there is more to public service than that. A public servant must work within the "rules" which his nation or state has established for the orderly pursuit of society's goals. It follows that a public servant must work within the framework provided by national policies, as they evolve, and must mesh this work with the administrative

structure through which the country seeks to make national policies a reality.

In other words, the public servant renders unto Caesar the things which are Caesar's in order than he may render unto God -- or whatever higher authority he may recognize -- the things which are God's. This task of working to the benefit of the public-at-large, while also adhering to the norms and policies which orderly government requires, is not an easy one. But I believe that it is necessary always to define public service in this context, if only because public servants inevitably handle public assets, whether these may be in the form of buildings and equipment, monies to be disbursed for good purposes, young people to be trained for the public benefit ... all these assets which public servants handle are, in some sense, a "national trust" placed in the public servants' hands -- whether that be through a tax-exempt charitable society or a tax-deductible rural development project. In each and every case, the public servant is responsible for proper deployment of public resources. It follows, therefore, that a public servant must deploy the resources placed in his charge according to the norms, policies and administrative framework established by the nation or state for such purposes.

How to find true public servants?

Where, in the case of our country, for example, do we find our public servants?

Do we find them in the private sector? Those who work for the private sector are duty-bound to serve their shareholders, while also to some extent looking after the interest of their workers, their suppliers and -- in the interest of the company -- their customers. Somehow, while serving these somewhat narrow interests, a private sector organisation must also pay its taxes to the government of the day. Faced with these demanding and often conflicting interest groups to be served, is it not impractical to suggest that people working in the private sector should also be public servants -- except, perhaps, in the sense of "What is good

for General Motors, Coca Cola and the like is good for the USA", if you accept that dictum.

If public service is not practical within the private sector, may we then look for it in the public sector? Our experience indicates, I believe, that more often than not we may not. While there are honourable exceptions, it has increasingly been recognized that our public sector corporations have become monsters which feed upon the body politic, ravenously serving their own ends, rather than the public-at-large. Government is not only their shareholder, but also their master -- and if their workers, suppliers and customers do come into the picture at all, it is their customers and suppliers who jointly serve usually over-staffed cadres of managers and workers, rather than the other way round. In other words, the typical public corporation serves its own interest -- and frequently the interests of its political masters. Moreover, when a public corporation does become a creature of the Minister, the Secretary, or whomever, can one really blame the power holders who exploit them? Public sector chairmen may cry out in pain. Public sector chief executives may argue for "autonomy." But when a maiden appears willing, can her seducer be blamed for taking advantage?

The fact of the matter is that in the private sector, the public sector -- and in our administrative and political structures -- we do not always find true public servants, because so many who work there must observe and serve an ever narrowing constituency, so that ultimately their sole objective becomes the maintenance of the system -- preservation of the *status quo* and of their increasing stream of perquisites and privileges which, ultimately, must be paid for from the public purse.

The form and content of contemporary public service

Yet all is not lost! People do perform public service -- and an increasing number of our educated young people are motivated to do public service. But the form which it takes is dictated largely by the context in which it is performed. Public service is not an abstract

generalization. Nor is it simply a desire to do good -- we all know what the path to hell is paved with.

The form of contemporary public service is dictated by its content. The content required of public service in our country today is clear:

First, the public servant has to find out how to put our modernizing infrastructure to the service of the majority, rather than to that of the elite. The country has, at great social cost, erected the basic structure which a modern society requires: the infrastructure of education, research, communications and heavy industry. The public servants of today and tomorrow have to discover how to put this infrastructure to work for the benefit of the public-at-large.

Our basic problem is that relatively few people have an opportunity either to contribute to the modernizing infrastructure or to benefit from its outputs. If half the boys and two-thirds of the girls in our villages cannot complete primary school, then the country is forever barred from benefitting from the development of their brains -- and the village children themselves are debarred from even the possibility of entering our institutions of higher education and research.

If half the power lines to our rural areas and 40percent of the generating capacity are not working most of the time, then what chance have people, working in villages on their own farms, of benefitting from our enormously expensive investments in electricity generation and distribution? No wonder the few rich farmers which this country has, collude with Electricity Board employees, in order to monopolize what little electric power may trickle erratically into our villages -- and that, too, frequently without paying for it!

In any case, as long as the modernizing infrastructure is commanded by a self-serving elite, how can a few, lone, would-be "public servants," lost here and there within the system, be expected to challenge the power structure and redirect our modernizing infrastructure, so that the poor majority gets access to its benefits? Our institutional structures

seldom give would-be public servants a chance -- especially the young people whose ideals are so often crushed by "the system".

This cannot be changed unless we put right the imbalances between the urban and rural sectors; unless we reverse the flow of funds and of talents from rural to urban areas. We all know that this must be done, if only because our country cannot in the near future become one where the majority is "urbanized" in the western sense of that word. Indeed, such a prospect conjures up nightmarish visions of one mega-city stretching from Calcutta to Madras and another mega-city stretching from Delhi to Bombay, with vast stretches of depopulated waste land between these two teeming, dirty, crime-ridden mega-cities. To avoid such a nightmare, the public servants of today and tomorrow must seek instead of make life worth living and self-fulfilling for the majority of our citizens who live off the land -- and who, in the future, must be enabled to live well off the land.

This means that we, the elite, must take our courage in both hands and look upon our vast rural population, not as a liability, but as an asset. If we can then enable our public servants to put the instruments of productivity into our rural people's hands, this India will become the world's breadbasket. This is the main task facing the young public servants of today and tomorrow -- and they know well that this task has to be tackled at the grass-roots level.

Comprehensive rural development: the first steps

In fact, there is a lot of talk these days about "working at grass-roots," but when one considers that what we are talking about is development at the "the grass-roots" of 560,000 villages, one is bound to realize that these generalizations about grass-roots are unlikely to lead to any practical solutions. But we have had before us, for several decades now, some practical examples of how we can, at least, start to tackle the task. Allow me to take the example with which I am most familiar: that is, the example of our milk cooperatives. These cooperatives have several characteristics which have led to their not inconsiderable success:

* They are cooperatives which deal with a single commodity. This means that their management, their technical personnel and their entire energies can focus upon one major task: namely, putting the processing and marketing of their members' milk into their members' own hands, while also providing to their members the inputs which they need to increase their milk production and productivity. It is this single commodity focus which enables these cooperatives to concentrate on a single set of well-integrated tasks.

* This cooperative structure enables the milk producers to recruit, through their cooperatives, their own professional managers, dairy technologists, veterinary doctors, and animal breeding specialists. These professionals know whom they are serving: they are serving the milk producers who have hired them through their cooperatives.

* The milk producers know also that they have every right to demand high standards of professionalism, integrity and commitment from their cooperatives' professional managers and technicians. Unlike the government veterinary doctor, the cooperative veterinary doctor is expected to be present in the village on schedule. Unlike the government dairy, the cooperative dairy cannot make deals with private contractors and tell producers that their milk was sour or diluted, when that is not the case. In other words, when we put the business of processing and marketing rural people's produce into the hands of the very people who produce it, then -- and only then -- rural people can demand that their produce shall be processed and marketed efficiently and that they, the producers, shall get a fair share of the rupees paid by consumers for their produce.

We have seen that this can be done by the dairy cooperatives. During Operation Flood, over the last decade, the number of village milk

producers' cooperatives has risen from 1,500 to over 12,000: 12,000 village cooperatives serving some 1.3 million milk producers and their families. That is a rural population of some six to eight million persons.

Nor is this form of rural development confined any longer to milk alone. Already, the Anand Pattern of Cooperation is being applied to restructuring the oilseeds and vegetable oils sector -- and plans are being made to extend Anand Pattern Cooperative coverage to cotton, fruits, vegetables and fish.

Now, we all know, there is more to life than milk, oilseeds, cotton and the like. The single-commodity cooperative is, certainly, only a step toward comprehensive rural development; but it is, I submit, the most important step. For what are we really doing, when we enable the milk producers in a village to learn that they can command the services of professional managers and technically qualified staff? What we are really doing is to use the example of milk, oilseeds, or whatever, to give the producers, our farmers, a practical experience of coming together in order to tackle their own problems and to obtain command over professional skills they need, in order to control the process of development, right in their own village.

Once the producers see that they can do this, they realize that the same structure can be used to enable them to obtain social services, such as maternal and infant health care, environmental sanitation, organized employment for rural youth, access to decision-making for women -- the whole gamut of developmental activities in fact, about which so much is talked, all of which are the business of the true public servant.

Today's public servant's roots: the villages

Does it not, therefore, follow that the public servant of today and tomorrow must be the employee -- and, indeed, the servant -- of the farmers themselves? That, quite frankly, is the lesson which I have learned -- more by good luck than good judgement -- during my 30 years of work as a professional manager paid by farmers to serve them.

I often find that people take it lightly that I should be the paid Chairman-cum-Managing Director of the Gujarat Cooperative Milk Marketing Federation, while I am the honorary Chairman of the Indian Dairy Corporation and the National Dairy Development Board.

In other words, I have so far not taken that apple of Delhi's Garden of Eden: the symbolic one rupee per year which makes the would-be public servant a servant of government as well.

This does not mean that I have "pulled a fast one" on successive Governments of India down all these years! On the contrary, successive Governments have known very well the concept of public service that I have pursued. It is no secret that when the National Dairy Development Board was formed at the time when Shastriji was our Prime Minister, that he naturally expected to have the NDDB set up in Delhi. Then I explained to him that I was a servant of farmers and that the NDDB had to work for and serve all farmers and that the best way to assure this was to put the NDDB in Anand, which is the heart of our dairy cooperative structure. Then, and only then, could we be sure that the NDDB would be sensitive to farmers' needs, responsive to their demands, aware of the realities of rural poverty and not screened from rural realities by the mad rush to urban consumerism; or by the intrigues which dominate the corridors of power; or by the cocktail party circuit that substitutes for society in our pseudo-western urbanized wastelands. When I explained this to Shastriji, he at once saw the logic of it and agreed that the NDDB should be at Anand. He also saw that it would be appropriate that the Chairman of the National Dairy Development Board should be paid by farmers, that he should remain a farmers' employee, not a government employee. And that is how I came to be an honorary Chairman of the Indian Dairy Corporation and the National Dairy Development Board and the paid Chairman-cum-Managing Director of the Gujarat Cooperative Milk Marketing Federation.

I saw recently in the press that a certain multinational food marketing organization was making proud claims that its Indian subsidiary

had diffused its ownership among its 81,000 Indian shareholders. Well, our Federation is admittedly only half their size -- we market a mere Rs. 150 crores of our milk producers' products annually -- but we serve 8,60,000 milk producers who are our shareholders!

It was this vast and intensive farmer participation that enthused Shri Lal Bahadur Shastri about our work at Anand. As it had the great Pandit Nehru before him and successive governments since his time, all of which have wholeheartedly supported us in our work.

And it is thanks to that support that we have been able to get down to the true business which concerns public service today. What is that business? It is no more than bringing together the human and material resources that are required to pump the instruments of increased productivity into our villages. It is the organization of milk procurement in 1,000 villages at a time. It is the organization of veterinary services, artificial insemination services and extension services in 1,000 villages at a time. It is the tapping of our nation’s research and development for our farmers' benefit; it is the bringing of scientists into contact with the farmers and vice versa. It is, above all, the bringing up of committed young people, young graduates -- and enabling them to learn what it is to be a professional -- and how to become a true "public servant", which is what so many of them aspire to.

Young people, especially, appreciate that practical public service is the bringing of integrity and order into the development system. Integrity and commitment start at the top. You cannot be the servant of grasping politicians, corrupt bureaucrats, greedy middlemen or black money dealers, while still retaining the trust and respect of those you work with, be they farmers, fellow managers, or professionals and technical cadres.

The Right to Serve

It is at this juncture that we arrive at a paradox. If the public servant of today and tomorrow is not be the creature of vested interests, black money merchants and the rest of our crumbling power structure --

then can that same public servant also be expected to "go along with" what he knows to be a rotten system? Should he be expected to pander to wielders of "influence"? Is there any reason why those who serve only their own interest should receive servility from those who seek to serve the public interest?

Surely, at the very least, a true public servant deserves the "right to serve"?

At present, anyone who seeks to serve the public has to fight petty bureaucrats and politicians, self-styled "farmers' leaders", and private sector "industrialists" many of whom, if they are industrialists at all, are there by accident of birth and history, rather than merit. Many of them are yesterday's merchants, wrapped in the trappings of modern industry, but whose main principle of business is still the merchant's principle: "buy low and sell high." They seek traders' margins, rather than margins that are earned out of efficiency and service to suppliers, workers and customers.

Again, no doubt we could all come up with the names of some noble exceptions. But I must say that I speak from extensive and disillusioning experience. For a long time, my own work was concentrated on serving milk producers as a professional manager and thereby being responsible for helping the milk producers to erect a modern dairy industry. And as long as I stuck to the milk business, I was pretty well left alone, except for a few mud slingings from time to time.

Then, at the instance of the Government of India, I and my colleagues at Anand turned our attention first to cotton and then to the oilseeds and vegetable oils industry. Now, when we first came to cotton, it happened that at about that time, textile mills were required by the Government of publish in their annual reports the prices that they had paid for different qualities of cotton. It happened also that Gujarat’s cotton cooperatives already owned and operated several cotton gins and were handling a sizeable proportion of Gujarat's cotton production.

When we compared the prices received by the cooperative gins for a given quality of cotton with the prices shown as paid by the textile mills for the same quality, we found that approximately 25percent of the textile mill's price had somehow disappeared between the time when that cotton left the cooperative gins and the time when it reached the textile mill! In other words, these textile mills -- many of which as you know have for a long time been "falling sick" under the expert management of the industrialists who own them -- still paid one-third more for their cotton than the prices which our cooperatives were able to obtain! I must leave it to your imagination, as I have left it to mine, to guess where that missing one-third went to. But I can tell you one thing: it happened that we made this peculiar discovery at about the time we started our oilseeds and vegetable oils cooperative projects and by some coincidence, no doubt, that was also the time when we changed from being an occasional target in the press for a bit of mudslinging, to becoming the target for a concerted barrage of "stories" about our projects -- and about some of us, personally. Most of the sensational happenings had either never happened, or if they had happened, had been torn out of context and twisted beyond recognition.

There are two other aspects of our cooperative cotton-pricing problem which have a bearing on public service:

I often wonder what it does to our young mangers and technically qualified people, when they find that they are working in organizations that have adopted improper ways of working. I am often amazed and disturbed to see the lengths to which junior people go, in those bad organizations, in order to try to please their masters. In some ways, it is understandable, I suppose. Yet, one wonders how one can expect to find integrity in such organizations, if this is the way they bring up their young people. One hears a lot at the moment about the Finance Minister's new "Bearer Bonds." There is much talk that these bonds are merely a means of legitimately turning black money into white. But surely, this pales into insignificance, when one considers what is being done when trading with agricultural produce? Agriculture is the country's largest "business." When the traders corner supplies and jack up prices, monopolize local

mandi markets -- even if they take only, say, 10percent -- think of the crores of rupees that are involved. Isn't this the biggest black money generator of all? How can we restore integrity in our economy until this raping of producers and consumers, alike, is stopped?

I submit that the time has come when sheer pressure at the grass roots will soon demand that those who control the instruments of development must, at the very least, accord to those of whom they expect to be public servants the "right to serve," without having to kowtow to petty timeservers in business or in government. I also believe that, again, if only because of pressure from the grassroots, the press -- regardless of who owns it -- will have to inform its readers even-handedly, rather than acting as a smoke screen for the elite.

The majority of our people are rural. The majority of them are poor. But the majority of them are no longer ignorant. What they seek now is a working elite: an elite which works for them. If the present elite -- which is you and me and anyone else fortunate enough to have obtained some professional qualifications and access to the instruments of modernity -- cannot change itself, then the poor rural majority will inevitably seek and successfully obtain a new elite. That new elite will have to be such that it accords to the true public servant the right to serve with respect, pride, professionalism and appropriate rewards for achievement. Those who serve should be left alone to get on with the job -- and rewards for achievement should also be matched by penalties for dishonesty and laziness. If the poor rural majority does not see a fair system of rewards and penalties coming into play, then we cannot expect them to accept what is, in any case, going to be very hard two decades or so, while this country works to make life worth living for our rural majority.

Diffusion of power

In any case we, the professional elite of India, cannot toy with our country's development as if it were a plaything of the rich. India is already among the ten largest industrial powers. We already are reckoned to be sixth in the production of skilled technical and managerial personnel. India is a large land mass, with the globe's second largest human population and the potential to become a dominant producer of sun-hungry crops.

In other words, whether we like it or not, we are becoming a powerful country. Power concentrated in the hands of a few is always dangerous. One can never be sure that it will not one day be abused.

As long as a narrowly-based, self-serving elite seeks to retain its hold over power in our country, how can we or the world at large be sure that India's power will not be abused? It follows that power in our country must be diffused: it must be spread out more evenly among our majority, which is still largely the rural poor. And that majority must obtain practice in the collective exercise of power. Enabling the rural poor to get that practice is the first and most imperative task of today's and tomorrow's public servants in our country.

Conclusion

Creating opportunities in our villages for the poor majority to find out what it means to command the instruments of development is not easy. It is not a process that goes smoothly. People do sometimes choose leaders unwisely, especially before they have had time to realize that their vote really does count -- and that for example, in a cooperative, the principle of "one man -- or one woman -- one vote" really does operate. Until they have realized that, they will sometimes choose unwisely. But they soon observe the results of their lack of wisdom: when they see their elected representative or their appointed manager lining his pocket at their expense, they are not slow to take remedial action! The public servant of today and tomorrow is one who helps to speed up this process, one who enthuses the rural poor with the prospect of commanding the instruments of development and using those instruments to make their

families viable, their fields productive and their villages good places to live in. This is primarily a job for the young! What we oldsters have to do is to set things right, so that our young public servants can operate with decency, decorum and dedication. There are plenty of such potential public servants coming up among the ranks of our educated and committed young people. All they ask of us, the elite, is the right of private persons to serve the public cause.

Thank you.

All India Women's Conference
World Food Day: "Women and Food"

New Delhi
October 17, 1982

Operation Flood II and the role of women in dairy development

Madam President, office bearers and members of the All-India Women's Conference, honoured guests --

It is a double honour for me that I should have been invited to deliver this address: firstly, because this meeting is taking place to observe the World Food Day; and secondly, because my colleagues and I attach great importance to the role of the women in dairy development, which is my topic today.

I would like to start by inviting you to travel back in time with me, to the late 1940s and early 1950s, when I first went by chance to the small town of Anand in Gujarat. The Kaira District Cooperative Milk Producers' Union ("Amul") had barely come into existence then; Anand itself was little more than a village with a railway station. The district of Kaira had no all-weather roads. Moreover, in those days, in the most progressive community of the area, infanticide was quite common; daughters were a liability to be avoided if possible. A father could not dandle his daughter on his knee. If the family were fortunate enough to produce milk for their own consumption, a share of it would go to the boy children, but not to the daughters.

Only 30 years ago, that was the situation in Kaira District. It is good to recall this, if only to think how far we have come during these past 30 years. Today, we have *adivasi* women employed as trained artificial inseminators of milch animals; we have a few village milk cooperatives with women as office bearers and managing committee members; and, in effect, Kaira District's vast business of milk production is handled by

women, who also directly get the money which they earn from the fruits of their labour by selling milk to their village milk cooperatives.

No doubt we still have far to go. But we should not belittle the advances that have been achieved over these 30 years. After all, 30 years is equal to only the blink of an eye in the lifetime of a society. Also, if we have been able to come so far in the first 30 years of independent India's life, can we not reasonably expect to achieve far greater goals during the coming 30 years?

Today, however, I want to talk about dairy development and women -- not only in the role of rural milk producers, but also as urban milk consumers. Both roles are vital in the modernization of our dairying -- and that modernization can also be a boon to women, in their roles both as milk producers and also as milk consumers.

The urban milk consumers of India have been misled and manipulated by generations of bureaucrats, politicians and self-styled leaders. This is why so many dairy development schemes for urban milk supply have collapsed. After all, what usually goes wrong with an urban milk scheme is well known. It purchases milk, pasteurizes it, bottles it, keeps it cold. And yet, that milk is sold at prices lower than those charged for unpasteurized, unpackaged milk. Inevitably, the scheme runs out of milk and of money. The only solution offered by whatever government that runs these dairies is, in effect, subsidies -- which go to urban consumers, rather than to rural producers.

When this state of affairs reaches a peak, ghee prices start shooting up, as is happening at present. The urban milk scheme can then no longer pay a competitive price for milk. Then Government has only two alternatives: either it must pay out the mounting losses of the milk scheme; or it must abandon its social objectives, such as making milk more readily available to weaker sections of the community and raise the retail price of milk.

Whichever decision is made, the administrators responsible will be in the soup! It was in order to break this disastrous cycle that we at the National Dairy Development Board evolved Operation Flood as we did. We said, in effect, let us take the best urban milk markets and the best rural milksheds and then get the milk from the milksheds flowing to the major metropolitan cities in an orderly, stable and economic way. We were confident that if we could get this basic milk marketing system stabilized, then the modernization of the rest of our dairy industry could proceed in an orderly manner.

There were many difficulties along the way, one of which centered on this august city of Delhi. For it was in Delhi that we determined that a new system of milk retailing should be first demonstrated in India. I refer, of course, to the Mother Dairy's system of bulk-vended milk. When Operation Flood started in 1970, we had recommended that the first 200 bulk-vending units should be imported from America, where they were being manufactured for use in Mexico. Several years went by, but we were not allowed to import these machines -- and, in any case, we were told that bulk-vending could never be successful in India, that the milk will be diluted, that the machinery can never be maintained. Such was the confidence which our Government officials had in our modern dairy managers and technically qualified personnel!

The decision makers then turned down the whole idea of importing the machines and told the National Dairy Development Board that if it wanted bulk-vending system, it should produce the equipment itself. Considering that they had thought that not even an imported bulk-vending system could be made to work in India, you can well imagine the confidence with which they foresaw the Dairy Board falling flat on its face, should it be stupid enough to try to design its own bulk-vending system!

In brief, the NDDB had been "set up" -- we were to be the "fall guys".

In the event, however, we were able to design and get built a wholly indigenous bulk-vending milk system. Today, some 30percent of Delhi's

milk is retailed through the system -- and many consumers have thanked the NDDB for its role in this development.

Now, however, all this could be threatened. Consumers, especially the women who have to manage their household's economy, could be manipulated into ensuring the destruction of the system. As you must be aware, the price of *ghee* has been manoeuvred upward to levels at which milk traders can penetrate the rural milksheds where the cooperatives procure milk for the Mother Dairy, the Delhi Milk Scheme and for other urban milk markets. Thanks to the ever-escalating *ghee* price, these traders are able to offer higher prices for milk than can the cooperatives that sell milk to the Mother Dairy and the Delhi Milk Scheme. In this situation, how can we get milk for the Mother Dairy or the Delhi Milk Scheme, when the price charged to consumers does not allow us to offer competitive prices to rural milk producers? Once again, we shall be damned if we put up the price and damned if we don't, because if we don't, there will be little milk available either to the Mother Dairy or the Delhi Milk Scheme for the citizens of Delhi -- and if we do ... well, everyone dislikes rising prices!

Allow me to take another, more controversial aspect of women's role in dairy development, especially as it applies in India: namely, the question of "baby food," or "infant milk foods." In the early 1950s, the Government of India asked Amul to undertake the manufacture of infant milk foods, because they were being imported into the country by multinational manufacturers, who had told the Government that they could not produce such "sensitive" products in India. This was apparently because our air was "too dirty".

So, Amul undertook the manufacture of infant milk foods -- and, subsequently, the multinationals found that it was possible, after all, to manufacture these sensitive products in India. Since then, by its policies of direct purchase of milk from farmers, the most stringent quality control -- and least-cost marketing -- Amul has captured the largest share of this market in India, despite the best efforts of the multinationals who,

incidentally, put a far higher proportion of their sales income into promotion than does Amul.

Now, into this picture, comes an organization called "WHO." I do not know who is WHO, but apparently they are telling us that, after all, infant milk foods are a bad thing and that they should be stopped and their advertising banned. Many women's organizations, I understand, support this effort of WHO.

Now, all of us are aware of the advantages of breast feeding -- including the professionals in organizations like Amul. In any case, there is no time on this occasion to detail all the advantages of breast feeding and the physiological and psychological factors which sometimes prevent or curtail successful breast feeding. But I think I should list some questions regarding infant milk foods which further consideration:

1. In a country's rural areas where there is no advertising of baby; food, such as the people's Republic of China, there is well-researched evidence that a significant proportion of mothers are unable to produce enough breast milk for their infants and that doctors believe that supplementary foods for infants are indicated for mothers of these infants.

2. In our country, as far as we can tell, not more than 2percent of infants are fed with infant milk foods that is to say, 8-10percent of urban infants.

3. If, as is being suggested, all advertising of these infant milk foods ceased -- and they were put on prescription, is it not inevitable that, for the few mothers who need and can afford these foods, the cost of will simply go up by the cost of getting them on prescription?

Now, the informed consideration of these complex factors depends, in my view, largely on there being a body of women who can advise both the Government of India and farmers' organizations such as Amul on how

they feel the matter should be dealt with. Certainly, Amul can cease production of infant milk food production tomorrow morning and divert the milk to other, more profitable products. But if it does so, the price of these infant milk foods will go up -- and, we shall be damned by those who depend on us. Also, the multinationals will re-enter the market in a dominant manner, with all the drawbacks which this implies from a national policy point of view. On the other hand, if Amul continues to try to make baby food available and to keep mothers informed as to its availability and its proper usage, it appears that we shall also be damned.

Again, as is the case with our policy regarding urban milk schemes, it appears that we are damned if we do -- and damned if we don't. In other words, we are in what our young people call "a Catch 22 situation" -- and I am hoping that one of the roles of women in dairy development will be to help get these self-contradictions ironed out!

This will become all the more important in the next few years. You probably know that, at the instance of the Government of India, the NDDB has just started a project to increase the availability of vegetable oils, while also attempting to achieve a supply-demand balance that will help to stabilize prices. The NDDB has already started to implement its part of this programme and we do expect a significant increase in oilseed production in the areas covered by the project this year. Meanwhile, the consumer price of vegetable oil has, certainly, inflated in line with other food prices; but the prices paid to farmers for their oilseeds have been increased more, in order to induce an increase in production. This has been done by achieving a severe reduction in the margins earned by speculators and middlemen.

In the vegetable oil business, speculators and middlemen are very powerful. We have encountered -- and we continue to encounter -- many problems, and even violence, on account of the power which these gentlemen wield.

Yet, Government now desires to apply the Operation Flood principles to the production and marketing of fruits, vegetables -- and, possibly, even fish.

If we take the example of fruits and vegetables, you may have heard, as I have, that the Delhi market for these kinds of produce is dominated by six or eight people who make a lot of money out of it. So, if the NDDB starts to try to get fruits and vegetables marketed directly to you by the producers, without the intervention of middlemen, the quality will rise and the middlemen's margins will fall -- and I suppose our professionals working on the project will, yet again, suffer from anonymous violence.

In all these case, I feel that more active support from well-informed consumers, and from women's organizations such as the All-India Women's Conference, could actively be brought to bear on the powers-that-be, in order to try to construct a situation in which we can more easily get on with the job of getting rural producers' produce to you in better condition and more economically, while also ensuring that a higher proportion of the urban consumers' food rupees gets back to the producers themselves. This is, after all, the only way in which we can ensure a better long-term supply of food for urban consumers and their families.

Allow me to turn for a moment to rural producers. In the case of milk, we are largely talking about women -- and, even for other crops such as fruits and vegetables, much of the work is often done by women and children. I am sure that we would all prefer that child labour should be eliminated, so that children can go to school and develop freely and fully. But this can come about in rural areas only when incomes rise and many old traditions adapt to the imperatives of modernization.

I have worked as a professional manager for rural producers for some 30 years. It is a mistake to think that rural people need to be told what is good for them. They -- especially the women -- know what is good for them and their families. At most, they sometimes need to be shown --

or they need to have a proof -- that our urbanized professional elite is genuinely willing to put the tools of modernization into rural people's hands.

For example, take the controversial question of turning our unproductive, nondescript cattle into crossbreds. Such crossbreds are more productive and more profitable to keep. But one reaction to this approach to cattle breeding is that it will "replace women" in milk production, even though I am told that many European women, for example, manage 100percent Jersey cows as successfully as the men -- if not more so.

But, I put it to you that in any family living in a village, a man and a woman will sort this out. In any case, development is already difficult enough -- and we, the urbanized elite, are trying to tell families and villages how to manage their male - female relationships? The simple answer is that in all walks of life, men and women have to find how to manage the process of development together.

When urban people are trying to tell rural people how to tackle such relationships, it often looks to rural people as if this is yet another case of the urbanized elite justifying its existence by concentrating on telling others what to do, when they cannot even manage their own development properly.

Instead of these patronizing and rhetorical approaches to "rural development," it would be more helpful to both rural women, and also rural men, if urban women -- especially those from better-off families -- would think a little more about the impact of their actions on rural people. For example, I mentioned a little earlier, that the price of *ghee* has gone out of control. I am told that *ghee* is selling for Rs. 50 per kilo in Bombay. Every kilo of *ghee* purchased at such a price means the loss of probably some 25 litres of milk from the cooperatives' milk supply to cities like Bombay and Delhi -- and the milk schemes could complete against the *ghee* merchants for that milk only if buffalo milk were to sell at Rs. 5-6 per litre in Bombay and Delhi!

I wonder how many urban consumers — those who can afford to spend Rs. 50 on a kilo of ghee — stop to think of the impact this action will have first on their own pockets, but also on the well-being of rural producers.

After all, for every woman who is responsible for feeding a family in an urban area, there are four such women in our villages, almost all of them far worse off than their urban counterparts. For those rural families who are milk producers depending on our milk cooperatives for daily income, if the *ghee* traders smash the cooperative system, the milk trade will revert to the jungle -- and the rural milk producers will once more be at the mercy of money-lenders and middlemen. So, I suggest, the first thought that an urban woman should have, on her role in dairy development, is to think of her four sisters in the villages, who may yet be driven back into the grip of middlemen and money-lenders, if their cooperative system is not there to protect them.

The implications of this are far wider than just "milk" or "fruits and vegetables." After all, the introduction of Anand Pattern cooperatives into villages does not only affect the marketing of produce as such. For example, when a milk cooperative starts in a village, the cooperative's veterinary doctors come to attend the animals. Women learn about the artificial insemination of animals. They see for the first time live semen under a microscope. They learn about the reproductive process and how it can be controlled.

In other words, "development" is not merely increase of production of milk, or fruits, or vegetables -- it is an exposure to modernity, and access to modern science and technology, right in the village itself. Indeed, we now have a pilot programme that is beginning to indicate that the Anand Pattern cooperative can actually provide an infrastructure upon which each village, as a whole, can build its own welfare programme according to its priorities, including provision of maternal health care, supplementary feeding for needy infants, village youth employment and environmental sanitation. In this pilot programme, the women of the

villages are taking a lead and using the Anand Pattern cooperative infrastructure to take the community decisions required, to reach a consensus on the villages' priorities -- and on the vital function of selecting village women for training as Village Health Care Workers and so on.

Again, I reiterate, there is no evidence that these women need be told by the urban elite how to achieve their objectives for their families -- they only need to be allowed to get on with the job.

But all these changes cannot take place if urban women, in their role as consumers, do not do their bit toward helping to see that their rural sisters -- the "other four" -- are genuinely helped to reap the fruits of their labours. Indeed, the time is coming when informed urban women can and should insist that the milk which they purchase for their families comes from rural cooperatives -- and that a fair price is paid for that milk, directly to the producers. This movement should march on from milk to fruits, from fruits to vegetables and the day must surely come when all rural produced foodstuffs -- not to mention cotton and jute -- will be properly marketed, and at fair prices, for both producers and consumers.

Then, and only then, can our rural majority -- both men and women -- at last play their appropriate roles in all forms of development including, of course, dairy development.

Thank you.

The Institution of Engineers (India)
Vallabh Vidyanagar Sub-Centre

Vallabh Vidyanagar
January 29, 1982

1st Sardar Patel Memorial Lecture

Now is the time for engineers to follow the call of Sardar Patel

Shri H.M. Patel, President; Shri C.K. Shah, Chairman; Members of the Executive Committee of the Institution of Engineers (India), Vallabh Vidyanagar Sub-Centre; and honoured guests --

It was with a mixed feeling of pleasure and apprehension that I received Shri J.C. Panchal's letter, inviting me to present this, the first Sardar Vallabhbhai Patel Memorial Lecture. I was pleased to be so honoured -- but this feeling was tinged with hesitation. I have been increasingly out of touch with engineering (much more, the practice of it) for some 30 years, since I became a manager of a rural milk producers' cooperative. Thinking about it further, however, I realized that I could perhaps appropriately honour the Sardar's memory by talking today about how I, as a newcomer to Anand, saw his ideas take shape, under the leadership of the men he had chosen with such skill.

Sardar's contribution to India's Independence, and to the integration of the princely states into the Union, is already well known. What was, however, far more remarkable than this achievement was his understanding that our rural population can be really free only when they are freed from the bondage of the money-lender, the middlemen and the landlord. His early understanding of rural exploitation helped to give the Independence Movement a special significance to the people in our villages.

The Sardar also clearly saw that India's Independence would be meaningless unless our people no longer suffered the indignity of bias based on the inherited privilege and prestige of an elite without conscience. He saw Independence not only as a political state -- but as a

economic state -- and as a social state also. With his remarkable knack for choosing people, had he lived a few years longer, Sardar Patel would have built the institutions which his vision of an independent India required -- and though he did not live to see that job done he did leave behind him the extraordinary men he had chosen to do the job in his name.

He chose Bhaikaka for example. He had seen Bhaikaka's drive and practical engineering skill in Ahmedabad. He chose him as one of his instruments for translating his social and economic vision into a practical reality.

Bhaikaka set about building institutions to increase the human as well as the material resources available to the people in villages. He established the *Charotar Vidya Mandal* for building a rural university -- and the *Charotar Gram Udyog Sahakari Mandli*, a cooperative venture for building rural industries. Thus, Bhaikaka wedded the support and capacity of the farmers, on the one hand -- and his own very significant engineering skills, while also ensuring the autonomy of his new institutions by endowing them with income from viable, productive enterprises, which he established right in the heart of the Charotar Tract.

To meet the Charotar farmers' demand for institutions of learning which would be suited to their needs, the Sardar started with an elaborate plan, first to set up a College of Agriculture at Anand, and then a College of Science -- and then a College of Engineering. He entrusted Dr. Maganbhai Patel with the task of getting the College of Agriculture established -- and he chose Bhaikaka to build up the Science and Engineering Colleges.

While I have observed Sardar Patel's impact on education, it has been my privilege to be more closely associated with what he inspired in dairying. As you may know, until the end of the first half of the 1900s, dairying in India had been largely unorganized. What we had in those days, in the name of "modern" dairying, were pockets of improved animals at military farms, in plantation areas and on farms owned by a handful of the very wealthy. The milk business was controlled by traditional traders

and middlemen, who thrived on loans made to the poor milk producer in exchange for a lien on his milch animal's next lactation.

By the early 1940s, one important landmark of Anand town was a private dairy called Polson's Dairy. Many years earlier, Polson's had pioneered the process of making sour cream butter. During the World Wars they had supplied butter and cheese to the British Army. During the Second World War, when there was an acute shortage of milk in Bombay, the then Government had tried to start a milk scheme in the city, to supply subsidized milk to mothers and infants. This milk was to be obtained from the Kaira District -- and Polson's Dairy was given the exclusive monopoly over procuring the district's milk and shipping it to Bombay.

By 1946, the milk producers had become furious about the milk price. They felt that they were not getting a fair share of the price which consumers were paying for their milk. So they went on strike and refused to supply milk to Polson's Dairy at Anand.

But simply going on strike would not by itself get the farmers a better milk price. They went to Sardar Vallabhbhai Patel -- and he advised them to set up cooperatives, so that they could, through their own elected representatives, manage their own milk business.

He asked one of his young lieutenants, Shri Tribhuvandas K. Patel, to work with the milk producers to help them organize their own milk cooperatives. The Sardar clearly saw how different things could be if the milk producers were actually to own their own processing and marketing facilities. That such a great man could lend his unstinting support to the rural milk producers -- that he should so keenly espouse the producers' cause -- was to them quite amazing.

And it so happened that, when I found myself posted by chance in Anand, the Kaira District Cooperative Milk Producers' Union -- now better known by its brand name, "Amul" -- was struggling to expand, under the leadership of Shri Tribhuvandas Patel who had become the Chairman of

the Union. Anand was itself then little more than a village and Kaira District had not a single all-weather road. In those days, in the most progressive community of the area, infanticide was quite common. Daughters were a liability to be avoided if possible.

That was the situation only thirty years ago. Today, Anand has grown to become an industrial centre. All around Anand there are engineering industries, plus many small-scale units which make, among other things, milk testing equipment, laboratory glassware and so on. Amul has helped five other cooperatives to come up in other parts of the State of Gujarat -- and these six cooperative unions have together formed the Gujarat Cooperative Milk Marketing Federation, which provides joint marketing programmes and common services for all its members. This pattern -- which in the 1950s and 1960s provided the model for dairy development in Gujarat -- came to be referred to as the Anand Pattern. In this pattern, the rural producers continue to own and tend their milch cows and buffaloes as before. At the same time through the Anand Pattern cooperatives, the producers jointly acquire ownership of the dairy plant which processes their milk as well as of the organization that markets the output of their plant.

The policies of the Anand Pattern cooperatives are set up by their board of directors, most of whom are elected representatives. Each board has, as one of its duties, the recruitment of a professional manager who serves as its chief executive. That chief executive's responsibility is to get the board’s policies executed.

The surest way to see that policies are producer-oriented is to let the producers make them. The best way to get those policies implemented is to enable the producers to employ their own professional managers to execute them. As employees of farmers, managers and other professional staff are going to be sensitive to their needs, helping them build up their markets efficiently -- and deploying the best technical people in the business to make certain that the farmers get access to modern science and technology for production-increasing services.

Another advantage of this pattern is that, because of the close rapport between the field extension workers and the producers, there is far quicker feedback from the producers to their professional managers -- and this enables the managers to formulate increasingly realistic policies.

In short, demonstrating that the rural community *can* use modern technology to improve its productivity -- and providing an institutional structure through which the rural community can command modern technology -- is the most important function of the Anand Pattern. Adoption of this, the Anand Pattern cooperative approach, on a national scale is a promising path which the country is now following increasingly in order to achieve rural development which really will reach the rural poor.

The National Dairy Development Board was formed primarily to replicate the Anand Pattern. The first Operation Flood was designed by the NDDB in 1967-68. Its goal was to overcome the major problems which had so far prevented replication of the Anand Pattern outside Gujarat. The basic philosophy behind Operation Flood I was to stimulate milk production and procurement in the 18 rural hinterland milksheds of Bombay, Calcutta, Delhi and Madras by providing an efficient, year-round market for the rural produced milk. Between the time when Operation Flood I was launched, in 1970, and its completion in 1980, the number of Anand Pattern Village Milk Cooperatives increased from 1,500 to 12,000. Through these cooperatives, an infrastructure was established for artificial insemination and veterinary services, plus supplies of balanced cattle feed concentrates, all designed to help milk producers improve their productivity and increase their incomes.

The basic infrastructure created during Operation Flood I provided the foundation for Operation Flood II. The objective of this newer, larger programme is to create a modern dairy industry capable of self-sustaining growth -- and to provide the milk component of a stable and nutritionally-balanced national diet during the 1980s. Building on the foundation laid during the first Operation Flood, NDDB will assist Anand Pattern cooperative federations in staffing themselves with competent managerial

and technical personnel. Each federation will be responsible for programme implementation in its own milkshed areas. This will include artificial insemination and the related services needed to breed up the milkshed's share of the National Milch Herd, as well as coordinated cooperative procurement, processing and marketing of the members' milk. Each federation will be linked to the National Milk Grid, which will have storage and long-distance transport facilities for conserved milk products. Through the grid, the federations will market liquid milk to the four metro cities, plus some 144 other cities with populations of over 100,000, as well as to smaller towns in and around the milkshed areas. The grid's facilities will be used to even out regional and seasonal imbalances between milk demand and supply.

The Operation Flood experience demonstrates the fact that our rural people can gain access to appropriate modern technology only when they have their own institutions to process and market their produce. These institutions are sensitive to their owners' needs and aspirations, if only because their managers and technicians are employees of the farmers.

Unfortunately, statistical presentations of the achievements of Operation Flood I tend to direct attention away from the social and economic changes to which the Operation Flood is contributing. The milk producers stand in a queue when they come to the village cooperative to sell their milk. Thus, they get used to standing in line and taking their turn, irrespective of caste, creed and clan. In this way the village milk producers' cooperative helps to break down social barriers. Then again, seeing how the cooperative is disinfected to keep down the flies helps to spread a sense of cleanliness and sanitation in the village. The village cooperative also provides a forum for discussion of cattle feed and the problems of animal nutrition. This naturally leads to discussion of problems related to human nutrition. Again, seeing how veterinary doctors really can cure sick animals leads logically to a new understanding of human health care. Learning about artificial insemination opens the way, by analogy, to learning about family planning. The involvement of women in the various facets of their milk cooperative’s activities helps

them to emerge from the limited world of domestic chores and child bearing into the mainstream of social life.

The long and short of it is that when we talk of Operation Flood we are not merely talking of "development," but of development of people -- and that surely is what Sardar Patel perceived right from the start.

When Sardar Patel envisioned the Agricultural College, the College of Science and Engineering, the rural industries of *Charotar Gram Udyog Sahakari Mandli* -- and the milk producers' own cooperative dairy industry -- his vision was not a mechanistic one of impersonal "institutions," as such. On the contrary, what he must have envisioned, long before the rest of us, was a set of human organizations which would not only put the tools of modern science and technology into the hands of the farmers -- but which would progressively enable rural people to develop as whole, complete human beings, fully aware and confident of their ability to grasp the tools of development and use them to fashion, right in their own villages, a way of life which would incorporate what is best out of modern science and technology, in pursuit of their chosen social and economic objectives.

Now, no doubt, the institutions which Sardar Patel envisaged are already achieving some parts, at least, of his original vision. But is it not time that we professionals took a fresh look at whether we are doing all that could to make Sardar Patel's vision a reality? And is this not particularly true of those of us who are engineers?

The process of rural development will be more effective if the infrastructure that is being created has an adequate supply of personnel with engineering training that is geared to meet rural people's needs. Is it not sad that there is no course of education and training in rural engineering that will really equip a young graduate to serve people in the villages and help to involve them in their own development?

A modest beginning has been made in this direction in the establishment of the Institute of Rural Management at Anand. This

institute will help to meet the need for rural management graduates who will implement such activities as the NDDB's dairy and oilseed cooperative projects. The Institute of Rural Management is born out of a conviction that all-round, sustained rural development requires specialized managerial manpower for rural producers' organizations -- and that these organizations are crucial to the development of the rural economy.

The institute seeks to generate appropriate managerial skills through management education, research and consultancy activities.

The distinctive feature of the institute's post-graduate programme in rural management is that it effectively blends education at Anand with field-based training in villages and in rural producers' organizations. The institute's aim to build up practical, professional rural managers is reflected, on the one hand, by the strong application bias which is built into the courses -- and, on the other hand, by the emphasis placed on the two segments of field-based training, to which nearly one-half of the programme period is devoted.

Surely, in similar ways, an education programme in rural engineering can also step in, to complement the efforts of the Institute of Rural Management.

The best way to approach the task of deciding what should be the functions and content of this new branch of engineering would be to begin by looking at the main problems that our villages encounter. These problems should be viewed as opportunities for young rural engineers to apply their skills for the benefit of rural society.

Traditional academic courses in engineering subjects are supposed to qualify young graduates for a number of functions: research, development, design, construction, production and management of engineering industries. But I believe that you will agree with me if I say that the ways in which these aspects of engineering are taught are seldom oriented toward teaching the young engineering graduate how to help village people to use his skill.

In fact, the training of rural engineers will have to cut across the traditional specializations of engineering. Moreover, while one appreciates the need to teach subjects such as space structures, nuclear science and biophysics, to keep our level of technology updated, equal emphasis is needed on teaching the uses of cheap sources of energy and of the materials available in the rural areas.

Rural engineering, as a new branch of our profession, can help to link the latest technologies to the needs of our rural population in the fields of agriculture, cottage industries, rural health, housing and sanitation.

So far as methods of disposal of human and animal waste are concerned, the rural engineer will need to know sanitary engineering, as well as fermentation processes and the bio-chemistry that underlies it. The rural engineer can be trained to plan the construction of roads using locally available material, rather than sticking rigidly to the traditional materials and methods, which few rural communities can afford -- and which often fail to serve their needs.

It would not be appropriate for me to attempt, here, even to outline the structure and content of an academic programme in Rural Engineering -- especially as there are many others here who are more competent to do that. What I would like to say, Mr. Chairman, is, quite simply, the title which I have given to this lecture: "Now is the time for engineers to follow the call of Sardar Patel."

In other words, now is the time for us, the nation's engineers to consider how we can help to carry one stage further the work which Sardar Patel started right here in the Charotar Tract.

I believe that we can do this by establishing a new education programme in Rural Engineering. What could be more fitting than that the Institution of Engineers' Vallabh Vidyanagar Sub-Centre should take the initiative in this matter? Perhaps you could consider joining hands with

the Engineering College, the Institute of Rural Management, and Amul, to devise a programme that will produce the first generation of Rural Engineers: young graduates who will be trained, educated and *committed* to the task of bringing the sciences and skills of engineering to our villages and putting them directly into the hands of our rural people.

That surely, Mr. Chairman, is what many of our young students would want -- and it would be a fitting tribute to Sardar Patel that this new branch of our profession should spring from the tree that he planted, right here in Vallabh Vidyanagar.

Thank you.

World Jersey Cattle Bureau
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Breed improvement and milk production in developing countries :

The role of farmers' organizations

I would like to take this opportunity to discuss the subject of "Breed Improvement" not as an animal scientist, but rather as a manager who is employed by Indian farmers. For managers like me, breed improvement -- like all the animal sciences -- is one of the important tools which we have a duty to make available to farmers, to help them increase their milk production and, through increased milk production, their incomes.

Such applications of modern science to milk production in India differ very much in practice from their applications in other parts of the world. In the industrialized countries, for example, the drive for increased farm production and productivity takes the form of substitution of capital equipment for human labour -- and of scalar economies achieved by ever-increasing farm sizes, so that as few as two men may operate, say, a 500-acre farm. In the planned economies, the modernization of agriculture is often sought to be achieved through the socialization of land via large state-owned farms, communes and collectives. India's society and resources, however, are such that neither the Western capital-intensive approach to agriculture modernization, nor the socialistic approach via collective ownership of land, are likely to be acceptable to our rural population.

For these reasons, if no other, India must find a "third way" to achieve the modernization of its agriculture and animal husbandry. Far from aiming at the substitution of human labour by capital equipment, we have to aim at maximizing the use of human labour in productive and remunerative employment in order to increase the incomes of our rural people. Nor, in our animal husbandry, can India move in the direction of

increasing milk production by the industrialized countries' approach of feeding animals ever-increasing amounts of feedstuffs edible by man. India's resources -- especially, the pressure on our agricultural land -- are such that animals must not compete with man for food. Thus, as we modernize our animal husbandry, we must retain the present input-output structure, whereby our milk production is achieved mainly by feeding milch animals on natural herbage and crop residues which are inedible by man. For any farmer or breeder new to the Indian agricultural sector, it may seen surprising that our population of some 87 million milch cows and buffaloes (plus 81 million draught males) can be maintained on regimens consisting primarily of crop residues and natural herbage -- but, it is a fact that this is how our milk producers keep their animals and it is on this basis that they have made India the fourth or fifth largest milk producing country in the world, having raised our country's milk production from some 21 million tons in 1970 to an estimated 32 million tons in 1981.

Before addressing the subject of breed improvement itself, it is desirable to clear away one misconception which I believe is quite prevalent about India milk production: namely, the idea that our unwieldy number of milch animals exists mainly because the killing of cows is contrary to our majority's religious beliefs. It is true that the slaughter of cows is repugnant to our Hindu majority -- but is also true that, in any case, at least 90percent of our land is worked with draught bullocks and these are unlikely to be replaced by tractors in the foreseeable future. Therefore, most of our farmers keep cows in order that they may produce male offspring to be reared as draught bullocks. Milk production for home consumption or for the market is, for these farmers, a by-product of bullock production.

Thus it is that, to date, most of the milk produced in India for the market is the product of stall-fed buffaloes. Some 60 percent of the milk produced in India is buffalo milk -- and probably 80 to 90 percent of the milk processed in our modern dairies is buffalo milk.

There is little or no taboo in India against the slaughter of buffaloes and, in most of our better milksheds it can be observed that, over the last

5000 years during which our farmers have kept buffaloes, they have selected types -- if not "breeds" -- for their efficiency as milk producers under our farming conditions. Even in our best milksheds, however, it has been estimated that there about one-tenth of one percent of the adult female buffalo population which produce an average more than 12 litres daily while in milk -- and a small percentage of these that produce as much as 20 litres daily.

It is also true that India has indigenous breeds of cattle which are quite good milk producers, such as Red *Sindhis*, for example. That having been noted, however, it must also b e said that by far the majority of our cows, as well as most of the buffaloes outside our better milkshed areas, are "nondescript:" that is to say, they are randomly bred and have no recognizable breed characteristics.

Thus the animal scientist who is concerned with breed improvement in India starts with foundation herds of buffaloes and cows which are primarily nondescript. Since they were selected over many centuries for characteristics other than milk production, they are characterized by their low yields of milk -- as little as 1/2 litre daily in the case of our cows and probably not more than 3 litres daily for buffaloes outside the major milkshed areas.

Obviously, not even the most enthusiastic animal scientist or geneticist would, in practice, aim at a breed improvement programme which would cover 87 million milch animals! During this century at least, our breed improvement programme aims at creating what we refer to as "National Milch Herd," consisting of 10 to 12 million genetically improved female milch animals by the end of this decade. We hope that this number will rise, perhaps, to 25 million during 1990s.

Thus, when we talk about breed improvement in India, massive though our programmes are, we are still dealing with only some 10 to 12 percent of our milch animals. Therefore, the much talked-of Hindu taboo against cow slaughter is not quite the problem which people imagine to be, if only because the farmers who adopt breed improvement can cull by

selling their less productive cows, as even these culls are more productive than most of the cows in areas outside our important milksheds.

Our programmes for breed improvement are usually described as "cross breeding" of cows and "up-grading" of buffaloes. These terms are simply a form of shorthand for use of the genetic material from western breeds for "cross breeding" with our nondescript cows -- and the use of genetic material from selected -- and, ultimately, proven -- bulls for buffalo breeding purposes.

It is now widely agreed that, for most of our milksheds, the Jersey breed is ideal for cross breeding with our nondescript cows. The Jersey's compact size is one of its advantages. The breed also adapts well to our agro-climatic conditions.

At the moment, there are certain problems with our cross breeding programmes. In particular, there is still some uncertainty as to how the second generation of crossbreeds should be treated. However, I shall not attempt to expand on such questions, as they are better left to the geneticists and experts who are specialists in such matters.

There are also problems in our buffalo breeding programme. In practice, it is quite difficult to identify males with the genetic potential for imparting high milk yielding characteristics to their female progeny -- and the task of "proving" such bulls is particularly difficult in a livestock sector which is dominated by small land-holdings and matching herds of not more than two or three milch animals.

Thus, our programmes of breed improvement must satisfy the following criteria:

I. For cows, they must capture the advantage of hybrid vigour that can be gained in the first generation by crossing a proven breed with nondescript cows.

II. For buffaloes, they must identify males which can pass on to their female progeny milk yield characteristics which are, at present, evidenced in approximately one-tenth of one per cent of the adult female buffalo population in our better milkshed areas.

III. The systems used in these programmes must be such that they can be organized, and the breeding process replicated, for at least 10 to 12 million breedable female milch animals.

IV. The milk yield characteristics which are sought to be improved must be achieved while also retaining the advantages of our present stock: namely, the ability to produce milk in semi-tropical agro-climatic conditions; and resistance to the diseases that are endemic to India and likely to remain so for some time.

V. The milch animals so developed must be such that they can continue to be fed primarily on crop residues and natural herbage and their total feed requirements for efficient milk production must be such that they can be met by landless milk producer families and small holders with not more than two to three acres of land.

These criteria may at first appear to demand the impossible of breeders and geneticists whose experience has been gained in the more industrialized countries! India's animal producers and geneticists, however, have identified some approaches which we believe will satisfy the criteria I have listed and permit even our poorest milk producers to benefit from the application of modern breeding methods to their small herds of milch animals.

The importance of making breed improvement available to our landless milk producers and our small holders cannot be over emphasized. Of our approximately 90 million rural households, at least 20 percent are landless people who are dependent on agricultural labour for their

subsistence and for whom work is available only during one or, at the most, two seasons for planting and harvesting. Probably another 30 percent of our rural households own less than 1 hectare land. Another 20 percent achieve meagre self-sufficiency on holdings of 1.5 hectares (3.6 acres). The remaining 30 percent constitute our rural upper-class, who own 75 percent of our agricultural land. But the holdings of even this upper class average only slightly more than 5 hectares (13 acres). Not more than two percent of our farmers can be described as "large land owners," having 10 hectares or more of land (25+ acres). Thus, even in our best milkshed areas, by far the majority of the milk producing families have either no land or less than 3 to 4 acres of land -- and of these 40 to 50 million poor rural families, probably 50 percent are to be found in the milkshed tracts selected for the modernization of our dairy sector.

Those whose job it is to manage the provision of services to milk producers in our major milksheds cannot escape the implications of these numbers. Take, for example, the area served by our first milk producers' cooperative in Kaira District. This area is one of the 400 districts which make up rural India. Its rural population numbers some 2.4 million people: surveys show that average family size is approximately six in number, so the district's rural area contains some 400,000 rural families. This means that 90 percent of all families in the district depend on the land. A typical milk producing family in Kaira District conforms to the national profile: those who have land own an average of 3 to 4 acres with 2 or 3 adult milch buffaloes kept for milk production. Probably some 40 percent of Kaira's rural families own no land at all. Their most valuable possessions are the 1 or 2 adult buffaloes that they keep for milk production.

The landless are such an important group that it is necessary to explain briefly *how* they produce milk, considering that they have no land.

Their method is quite simple. In Kaira District they keep *Surti*-type buffaloes which are compactly built and very docile. As is the case with most buffaloes, *Surtis* thrive on a regimen consisting mainly of coarse fodder and forages. The landless people who keep these animals earn a meagre living by hiring themselves out during each season as labourers

for work such as weeding farmers' fields and harvesting major crops, most of which are cereals. When they get employment for weeding and harvesting, they are paid party in kind: that is, they are permitted to take form the field either the weeds that they have picked or some of the straw residues from a cereal crop -- and they feed these materials to their buffaloes. For much of the year, no gainful employment is available for any member of the family -- and certainly not for women and children. One of the few productive activities available to these unemployed or under-employed people is to go into the surrounding countryside, to garner whatever natural herbage can be found that can be digested by their buffaloes. Over the last 50 centuries such families have identified species of trees and bushes, the leaves of which can be digested by buffaloes. These are gathered by poor milk producing families, especially during the hot, dry summer months of April through June that precede the monsoon rains.

Over the last decade particularly, irrigation by tube well and canal has increased in the district, so more grass and other herbage can be found, even during the hot summer, around irrigated fields and irrigation canals. Even so, the lives of our landless are hard. One can only reflect that how much harder still it would be if their milk cooperative did not exist.

Let me provide a brief mention of how that cooperative came to exist.

In 1946 the milk producers in Kaira District went on strike against a private dairy company which had been granted a monopoly over milk procurement in the district by the then colonial government. The private dairy company used its legalized monopoly to suppress the price paid to the district's milk producers for their milk -- until, in 1946, producers would bear it no more. They not only refused to sell their milk to the private dairy, but they also demanded the right to handle their own milk business cooperatively. This movement had its origin around the town of Anand -- and the pattern of dairy cooperative that has evolved there is now usually referred to as "The Anand Pattern of Dairy Cooperative."

The Anand Pattern is a three-tier structure. Its basic unit is the village milk producers' cooperative, formed by all the producers in each village who wish to market their milk cooperatively. In Kaira District, for example, there are some 960 villages and hamlets and there are village milk cooperatives in 940 of them with the remaining hamlets being served by nearby village cooperative. These village milk producers' cooperatives own a dairy processing plant, on the outskirts of Anand, with facilities for processing up to 800,000 litres of milk daily -- that is, some 176,000 gallons. In addition to marketing liquid milk in major cities that range in distance from Anand from 50 to 1,250 miles (80-2,000 km), approximately half the milk processed at the dairy plant is used to make pasteurized table butter, milk powder and other products. For the producers who own this dairy through their cooperative, its value is two-fold: (i) It ensures that they have a year-round market for their milk. In those of India's milkshed areas which have no such dairy plant, milk often has to be sold at distress prices during the flush season; and (ii) the dairy plant confers value on the milk SNF which, otherwise, has little or no marketable value in those parts of India not served by modern dairy plants -- particularly during the flush season.

Consider the problems involved in organizing the purchase of milk from hundreds of thousands of milk producers, most of whom have only one or two litres of milk to sell daily -- and that, too, in two lots: once in the morning and again in the evening. It is a task that calls for fairly demanding levels of managerial and technical competence. Indeed, it is widely agreed that the competence of the Anand Cooperative's professional staff -- and, above all, their commitment to the milk producer-members who employ them -- has set an example for India's professionals not only in our rapidly growing dairy industry, but also throughout our agro-based industries.

The first ten years or so in the life of the Anand milk producers' cooperative were preoccupied with the formation of village milk producers' cooperatives; the establishment of the first of its dairy processing facilities; and -- most important -- establishing the cooperative's brand-

name, "Amul," in the market place. Current surveys now show "Amul" to have greater recognition by urban consumers than the brand-names of any other consumer products in India -- including those made by the multinationals which manufacture dairy and other food products.

By the time the Anand Cooperative's arduous first decade was complete, its management was able to turn its attention to the task of helping their milk producer members to increase their milk production and its profitability. The first step taken by the cooperative to achieve this objective was the provision of veterinary services by teams of veterinary doctors and para-veterinary workers. Today, the cooperative union employs more than 300 such workers and 23 "mobile veterinary clinics" visit every village milk cooperative in Kaira District once weekly, according to a fixed schedule. Another 26 mobile veterinary clinics are available for round-the-clock emergency calls, which producers make to the cooperative union's centre at Anand by telephone or by messages carried by the trucks which collect milk from the village every morning and evening. In addition, the cooperative now operates its own radio communication channel, by which it can reach the mobile veterinary clinics and direct them to answer emergency calls as they are received.

Over the last 25 years or so, the cooperative has developed other services to help its milk producer members to increase their milk production. These include provision of assured quality fodder seed, cattle feed concentrates compounded according to a least-cost formulation, and training of para-veterinary workers for each village cooperative.

The remaining service of this type is the cooperative's artificial insemination system which is, of course, the key to the cooperative's work on breed improvement.

When the cooperative initiated its services to support milk production in the 1950s, it conducted a survey of Kaira District villages. A major finding of that survey was that there were simply too few buffalo bulls to service the female buffaloes kept by the district's milk producers. The buffalo is a highly seasonal breeder. The majority of effective natural

services have to take place within a period of 2 to 3 months. Producers who fail to get their buffaloes serviced during this time usually have to retain them dry for at least another 8-9 months, something which they can ill afford to do.

At the time of the survey, as can well be imagined, calving intervals in the district averaged 18 to 24 months. With the provision of artificial insemination, this has been reduced to between 14 and 16 months. Last year, the Anand cooperatives completed some 325,000 artificial inseminations. These are performed by lay artificial inseminators who reside in the village and are employed by the union. The buffalo semen is produced at the cooperative union's stud farm which has some 60 superior buffalo bulls.

For many years this AI service used "wet semen," which was delivered daily in ice-cooled containers by the trucks which picked up milk from each village cooperative. Now, the cooperative union's AI service has switched to the use of frozen semen.

I have described at some length the original Anand Dairy Cooperative because it is this pattern that India now seeks to replicate in all its best milkshed areas. At present, we have some 59 district milk producers' cooperatives. That means there are Anand Pattern cooperatives working in 15 percent of India's districts. These cooperative unions now include a total of some 16,000 village cooperatives with a combined membership of 2.2 million milk producer families. Ninety per cent of this cooperative structure has been established since 1970, as a result of the dairy development programme which is popularly known in India as "Operation Flood". Each of these 59 dairy cooperative unions is now creating its own infrastructure to provide milk production services to its members, including an artificial insemination service. It is hard to envisage any other structure which could realistically be expected to reach our target for the latter half of this decade: the enrollment of 10 million milk producer families as members of our milk cooperatives -- and enabling them to rear a National Milch Herd of 12 to 14 million genetically improved milch animals.

This is particularly pertinent in India's case, if only because our rural milk production depends on such a large number of small holders and landless milk producers, almost all of whom own nondescript milch animals with relatively low milk yields. By contrast, in the industrialized countries, farmers can stay in the milk production business only by constantly increasing the size of their herds and improving the efficiency of their animals. These farmers have a direct and heavy stake in breed improvement. They support their Breed Associations and their Dairy Boards, Milk Marketing Boards and other organizations that manage their breed improvement programmes.

Since milk production in India is, for the majority of our rural milk producers, a subsidiary occupation based on nondescript animals, the conversion of agricultural waste, and the use of family labour with virtually zero opportunity cost, India's milk producers have much less of a stake in such matters as breed improvement: they have to be motivated and helped with considerable skill before they will adopt breed improvement and the management practices that must accompany it. Hence our need to get tasks like breed improvement done through organizations such as the Anand Pattern dairy cooperatives, which the milk producers know are their own organizations, following policies set by their elected directors, and employing their own professionals to carry out those policies.

The only alternative organizations in India which could undertake the task of breed improvement are our state governments which, under our constitution, are responsible for agricultural and animal husbandry policies. Some of our state governments have made commendable efforts to introduce breed improvement in their milksheds on a large scale. By and large, however, government efforts are impeded by their inevitably bureaucratic structure and by their lack of financial resources.

This is why, in undertaking its responsibilities for the implementation of Operation Flood, India's National Dairy Development Board supports the Anand Pattern dairy cooperatives as its chosen instrument for effectuating breed improvement throughout the country's

milksheds. Under Indian conditions, this presents our animal geneticists, our breeders -- and our milk producers' cooperatives -- with some hard choices.

To date, the main policies adopted can be summarized as follows :

I. Although crossbreds from nondescript cows bred to Holstein-Friesians can be the most efficient milk producing animals in India under optimal management conditions, these crossbreds appear suitable only for a relatively small number of larger farmers who have sufficient resources to support them and the good farm management conditions required. For the majority of our milk producers, nondescript cows crossed with the purebred Jersey breed produce crossbreds that appear more suitable, because they seem to be adaptable to our agro-climatic conditions; more resistant to diseases endemic in India; and less demanding with regard to management practices. While there is still some dispute as to the level of Jersey inheritance to be aimed for, there is now wide agreement in India that in the foreseeable future a 50 percent cross is desirable -- and our immediate important task is to *stabilize* the Jersey inheritance at this level by *inter se* mating in the half-breed population with 50 percent Jersey bulls, which must of course be progeny tested if the milk yield advantage of cross breeding is to be maintained and if the performance of the new, mixed breed is to be sufficiently predictable for the milk producers to rely on it.

II. With regard to buffalo breed improvement, our first imperative is to identify and progeny test buffalo bulls that are capable of conferring on their female progeny the highest possible milk yield characteristics. The speed with which buffalo milk yields can be increased by the use of these bulls is, of course, much less than the dramatic

results which can be obtained with cows by cross breeding. Nonetheless, the suitability of the buffalo as a milk producing animal under most of our difficult farming conditions is such that at least equal priority must be given to buffalo breed improvement.

III. Our breeders and geneticists have driven home the message to the policy makers concerned in the National Dairy Development Board -- and in the Anand Pattern Dairy Cooperatives also -- that, while genetic potential for high milk yield is the most important economic characteristic to be aimed for in our breed improvement programmes, milk yield and profitability are really a function of such factors as age at first calving, calving interval, fertility and the economic life of each milch animal in the improved National Milch Herd. Ultimately, our task must be to progeny test bulls for their ability to confer the best possible "mix" of these characteristics upon their female progeny.

IV. There is a further lesson to be drawn from the example of the suitability of Holstein-Friesian crossbreds for our larger farmers: it may also be true that a single stabilized crossbred population may not be ideal for both our small holders with 3 to 4 acres of land and also for our landless milk producers. The resources of these two groups -- and, in some milksheds, their animal management skills -- differ so greatly that we must be prepared to learn and accept the fact that the stabilized crossbred which is best for small holders is not the same crossbred that is best for landless milk producers. This principle may also be found to apply in the case of genetically improved buffaloes.

Difficult though these policies will be to implement, we nevertheless believe that job *can* be done -- and that the majority of India's milk producers in our best milksheds will adopt breed improvement, *provided*

that they can see that it is in their interest to do so. They will gain confidence in the programme when they see that their elected representatives are responsible for the policies of their dairy cooperatives -- and this confidence will be reinforced if the competent, committed professionalism of their cooperatives' employees is such as to win their trust.

In other words, while it may well be essential to attach the greatest importance to the application of the sciences of genetics and animal husbandry in devising and implementing our breed improvement programmes -- the success of these programmes will ultimately depend upon the effectiveness of the milk producers' own cooperatives in their implementation. Considering the social importance of enabling the poor majority of rural people in India to improve their level of living by access to applications of modern science, the task of breed improvement is one which has socioeconomic implications that are perhaps of greater importance for India than for any other country which aspires to develop a modern dairy industry.

Administrative Staff College of India

Hyderabad
November 2, 1982

Sixth Mohan Kumaramangalam Memorial Lecture

Professionalism vs. Practicality: A Dilemma in Management of Rural Development

Shri Dharma Vira, Chairman of the Court of Governors of the Administrative Staff College of India; honoured guests, ladies and gentlemen ...

It is an honour to be invited to deliver the Sixth Mohan Kumaramangalam Memorial Lecture. I did not have the good fortune to know Shri Mohan Kumaramangalam personally, but I did know him by reputation. He was particularly reputed for the integrity and dedication with which he pursued the tasks which were entrusted to him by society. He was clear in this thinking and, unlike so many in public life today, he did not try to be "all things to all men." He knew that one cannot please everyone all the time. On the contrary, once one determines a desirable course of action, one probably has to displease quite a few people: that is one of our dilemmas in the management of rural development, to which the title of this lecture refers.

Objectives of rural development

In tackling the topic of professionalism vs. practicality in the management of rural development, I should start by emphasizing that, as a professional manager who has been employed by farmers for a little more than thirty years, that is the viewpoint from which I inevitably look at the whole task of rural development: a task that occupies so much space in our national debates -- even if there is far more emphasis on the rhetoric of rural development than on its practice.

I find that much of the confusion that presently obscures the meaning of rural development stems from the multiplicity of objectives which we claim to pursue in the name of rural development. These objectives fall into three major categories:

i. First, since most of our rural population is dependent on agriculture and is poor, the first objective of rural development is concerned with agricultural production and productivity. The country needs more food, more cotton, more timber -- so we talk much of "increasing agricultural production." And, somewhat less often, since we know that all kinds of production depend on the manner in which scarce resources are deployed, we speak not only of increasing agriculture *production* but also of "increased agricultural *productivity*;"

ii. Since we also know that a large proportion of our rural people have too little to eat, we usually add a rider to the objectives of increased agricultural production and productivity: namely, we say that this must be accompanied by improved nutrition for the rural poor. There is some debate about this word "nutrition;" I fear that it is used to avoid less congenial phrases such as "alleviation of hunger". In any event, discussion of the nutritional aspects of rural development, inevitably leads to the identification of a third set of objectives ...

iii. I refer to those objectives which can be summed up by the word "equality." Whether we regard this set of objectives as primarily social or primarily economic, we know that we cannot eliminate hunger unless there is substantial redistribution of income.

In our debates on rural development, ends often get confused which means. Not only do we have multiplicity of objectives, but often we confuse these objectives with the means by which they are to be

achieved. For example, a large part of the practical reality of rural development depends upon the rural poor obtaining more effective access to applications of modern technology -- not only for producing food and fibre, but also for obtaining housing which can keep the rain out during the monsoon; for obtaining drinking water which will not give babies diarrhoea; for obtaining cooking fuel which women and children will not have to walk ten kilometers to find; for obtaining basic health services and an environment which is conducive to the healthy development of the young.

As if this were not enough, one sees intuitively that these tools for better living are unlikely to get into the hands of rural poor unless there are better *services*, especially in the fields of education, health, communication -- and, less tangibly perhaps, in the whole area that can be categorized as "culture."

When we come to a loaded word like "culture," we realize that we are treading upon dangerous ground, reaching into matters that affect not only the minds of men and women but also their hearts. Like all good technocrats, we tend at this point to dismiss such thoughts as sentimental and we look for firmer ground, taking refuge in that with which we are familiar: some objective concept like agricultural technology, for example. This brings us back full circle to rural development's most familiar objective: "increased agricultural production and productivity"!

The size and nature of the task

On this occasion, however, let us not be daunted by the multiplicity of objectives that we face in rural development. Let us -- for the time being -- ignore our confusion between ends and means. Instead, let us proceed to consider the size and the nature of the task of rural development, because it has certain characteristics which, I believe, help to explain why we are less successful in rural development than in other areas of development.

Among the most important of these characteristics is the problem of "numbers" -- the sheer size of the task is something that we shy away from. If we look at it administratively, we tend to think first of the administrative unit, the district. Our districts get bifurcated and rejoined with quite surprising rapidity, so that it is difficult to keep up with the exact number, but I believe that the country has at the moment between 400 and 440 districts. On an average, there are probably 1,300 to 1,400 villages in each district. And, in each village there are something like 900 to 1,000 human beings -- all adding up to a total of 500 million people! These are the parameters of rural development and it is not surprising that most of us, for most of the time, do not like to dwell on these daunting numbers.

In addition to the size of the task of rural development, its nature is also complicated by the multiplicity of functions involved. Even if we were able to concentrate on the most technological objectives of rural development -- increased agricultural production and productivity -- we would soon encounter the difficulty that increased agricultural production has to be accompanied by such essential functions as storage, transport, agricultural processing -- and even that elusive function which is referred to as "marketing." And marketing itself, for the purpose of rural development, includes not only the marketing of agricultural outputs, but also the marketing of agricultural inputs.

However one chooses to categorize the functions to be performed in rural development, all approaches to rural development soon stumble on the need for redistribution of resources. So much so, that much of the debate on rural development comes to a dead end when it reaches the topic of "land reform." Since land is the major resource employed in agricultural production, it is, I suppose, inevitable that we should have sought to move toward equality within our society by redistribution of land, even though some other societies have achieved somewhat greater equality without any mandatory redistribution of land -- and even though we know that, if tomorrow we could cut up the available land, and distribute it equally to all who depend on it, we would be distributing poverty rather than plenty. I sometimes fear that we resort to the subject

of land reform when we want to console ourselves with the thought that rural development is a utopian, and therefore unattainable, concept. Perhaps we should, instead, pay more attention to the distribution of the quantum of earnings from agriculture, rather than placing such great emphasis on the distribution of land itself.

Then also, another peculiarity of "rural development," as our society views it, is that its objectives clearly indicate the need to design, organize and manage a variety of services which I would categorize as "welfare services". Most of these services -- since they usually require expenditures which are not directly offset by matching income -- are usually considered to be the responsibility of the State.

Even if one accepts my oversimplified view of rural development, I think one can fairly easily see why our efforts to achieve it have met with such limited success so far. If one takes together its four major characteristics -- the mind-bogging numbers involved; the numbers of functions involved, ranging from storage to marketing; the question of whether one is talking about redistributing an inadequate resource base or increasing and improving the distribution of the returns from the base; *plus* the need to provide welfare services on a scale and over spaces which defeat our present techniques for management of welfare services -- these four sets of characteristics would be sufficient to explain why our progress in rural development is so slow.

The approaches of other societies.

But all these reasons can be dismissed as being largely "technical." There are other reasons for our slow progress in rural development which can be categorized as "political."

By and large, other societies have approached the task of rural development by one of two routes which can be characterized, respectively, as "collectivism" and “capitalism." We are trying to follow a path somewhere between these two extremes. We justify this on the ground that unbridled capitalism puts the welfare of the more fortunate

individual before the welfare of the society as a whole; while strict collectivism sacrifices the individual for the greater good of the general mass. While there is merit in these arguments which support our middle-of-the-road approach, one sometimes wonders if we have not let that approach deteriorate into an effort to be all things to all men, to placate all parties, thereby satisfying none.

When he visited Anand in March 1979, His Excellency the late Mr. Alexei Kosygin, said to me: "You have taken thirty years to cooperativize the milk business and put it into the producers' own hands. Presumably, you will take another thirty years to do the same thing with oilseeds and vegetable oil ... and then thirty years more for cotton and jute. But they will shoot you down like a dog long before you get the job done."

Presumably, Mr. Kosygin was implying that one has to consider the practicality of evolution vs. revolution.

The role of the professional

Such questions, however, are not for the professional managers and administrators to decide: our job is to inform the processes of policy making -- and then to take the policies given to us by policy makers and to get them implemented. For the bureaucracy, the policy makers are the elected political representatives of the people. For a professional manager, such as myself, the policy makers are the elected representatives of the farmers who own our cooperatives. But in both cases, the principle is the same -- we professionals are, so to speak, "policy neutral."

Given a clear policy line, the role of the professional manager usually falls into three sets of tasks:

i. We have to manage the processes of planning and organizing in our organization, monitoring progress, making mid-course corrections when necessary and seeing that physical and financial audits are carried out with speed and propriety.

ii. We have also to see that the necessary technical functions are carried out within our organization by properly qualified and well-motivated staff; in a dairy cooperative, for example, we must have highly trained technologists to manage our dairy processing and cattle-feed plants; we have to have a whole range of professionals who are trained in the animal production sciences, such as veterinary medicine, animal nutrition and fodder production; and we have to have other groups of professionals to handle such matters as quality control, transport and marketing.

iii. There is an additional task for the professional manager, I believe, in any organization -- but, perhaps, especially, in rural cooperatives. This task can best be described as "anticipating and dealing with conflict”: In many ways, a rural producers' cooperative is a microcosm of our society. Within its structure there is vast potential for conflict: between different groups of members; between different groups within an elected board of directors; between cooperative members and cooperative staff who deal with such matters as procurement and quality control; and between urban interest groups and the rural cooperatives themselves.

The dilemma

This is as good an example as any of the dilemma to which I refer in my title: how is the professional manger of a rural cooperative, for example, to mediate in a conflict between an urban interest group and the rural producer members of his cooperative?

I have spoken of an ideal world in which the professional manager is "policy neutral." In that ideal world, policy is something which is handed down to the professional manager by the elected policy makers. The true professional then, regardless of his personal preferences, accepts that policy and implements it with enthusiasm and professional dedication.

But is this practical in our present-day world? What are we to do if we cannot clearly discern what is policy? For example, we are told to encourage the growth of farmers' organizations and to see that these organizations become competent and financially viable, so that producer-to-consumer margins are minimized, giving consumers good value for their food rupees and paying producers inventive prices for their crops. In the case of oilseeds, of which the largest single component is groundnut, we envisaged a significant addition to the prices payable to the members of our oilseed growers' cooperatives by having the cooperatives build up their export of hand-picked select peanuts. But when it came to the crunch, this export business was given to others, while we were left with the task of getting better returns back to the growers, leaving the advantage of the higher prices obtainable on export of hand-picked select peanuts in the hands of our cooperatives' competitors.

In another type of case, a state government appointed as the chairman of a cooperative federation a politician who needed to be accommodated. Appointment of cooperative office bearers can be necessary in the early days of a rural cooperative, because there are too few members to provide a sufficient base for the election of producer representatives to such positions. One of the first and most important tasks facing the board of directors of such a federation is the selection and appointment of a managing director. In this case, what did the appointed chairman do, soon after his appointment by the state government? He promptly appointed himself as managing director of the federation!

In a similar case, a state government appointed a senior civil servant -- who they felt had to be side-tracked -- as chairman of a new rural cooperative federation. Now there is an argument with the state government as to whether this officer is entitled to the customary five

personal servants along with other requisites such as car, house, furnishings and the like. The development agency responsible for funding the project says it will not pay for the officer's five personal servants out of project funds -- and the entire project is now at a standstill on this stupid issue.

There is another source of potential conflict which creates a dilemma for professional managers and administrators. If, for example, a rural producers' organization such as a milk cooperative takes on the job of organizing the provision of production-increasing inputs (artificial insemination, balanced cattle-feed concentrates etc.) then the administrators concerned start to ask, "What will happen to the Animal Husbandry Department?" Apparently, it is perfectly acceptable for a company like Horlicks to do what it wishes in a rural milkshed, paying the producers whatever prices it can get away with and charging consumers whatever prices it can manage ... all for the sake of the manufacture of "malted milk foods," the most nutritious ingredient in which is the milk which the consumer *adds* to the beverage!

But when the producers in a milkshed start to organize the milk business for themselves, then the whole apparatus of the concerned departments sees itself as being in conflict with the organization that "threatens" their existence.

In other words, we are getting to the point of having a Government "for the officers, by the officers and of the officers." Empire building has become the order of the day in Government. When we launched Operation Flood, we announced firmly that we did not wish to own any dairy plant. We would help people get plants designed and built -- and then we would hand them over to the people who produce the milk which each dairy plant processes. We have done this. We do not own dairy plants. In Operation Flood, the milk producers own them. How else are we to achieve that ideal situation in which the State will wither away?

Even on the issue of collectivism vs. capitalism, it would be far easier for the professional manager were he to receive policy instructions

which unequivocally direct him to go to one extreme or the other. Either a free enterprise "free for all," or a collectivist monolithic share-out, would be easier to manage than something which is not quite one thing, or the other!

It is not that the middle-of-the-road approach cannot be managed. It can be managed, provided that the professional manager responsible knows the priorities to be observed and is sure of the backing of his policy makers.

Most of our problems in rural development today stem from the fact that we are not sure about such things.

Conclusion

Both professional administrators and professional managers have certain jobs to do if the country is to achieve rural development. I am personally of the view that the technical functions involved can best be undertaken by the rural producers' own organizations, which are sensitive to producers' needs and which draw their strength from their direct communication with the rural people they are formed to serve.

- Only if the business of handling farm produce is handed over to the producers themselves, shall we be able to break the grip of vested interests which exploit producers and consumers alike.

- Only if the task of providing the inputs which the rural producers need to increase their production and productivity is in the producers' own hands, shall we get the degree of technical proficiency and managerial efficiency necessary to make the tools of modern agriculture production economically available to our millions of small producers.

- Only if the people's own organizations are entrusted with the task of seeing that the benefits of modernization are brought

> to bear on the problems of our poorest people, shall we ensure that these benefits are not siphoned off by the power-holders in "the system" and the better-off people in our villages.

The task of the professional managers involved in rural development would then become that of planning, organizing and getting the necessary technical functions performed within the frame-work of policies laid down by their organizations' elected policy makers. The task of the bureaucracy would be to inform the political policy-making processes and to guide and monitor the progress of rural people's own organizations within the broad framework of public policy. There would, so to speak, be an alliance between professional public administrators and the professional managers of rural people's organizations, in united support of the policy framework established by the elected Government. In exchange, the professionals involved would be freed of the burden of having to appear to be all things to all men. They would be freed of the burden of operating in a dual economy, wherein the professionals have only the white at their disposal, while their adversary power-holders have both the black and the white. They would be freed of the burden of constant harassment, where doing one's duty and acting with integrity is rewarded by constant transfers and the impossibility of getting ones children properly educated, while "going along with" the dual economy is rewarded by relative peace and sufficient stability to get one's children educated and established, set for a better life.

This is our dilemma. Professionalism is rapidly becoming impractical. The tasks which we face in the achievement of rural development throughout the land are so massive and are so complex that they cannot even be addressed if public administrators and managers cannot act professionally.

Nevertheless one factor is changing this gloomy picture. Increasingly, rural people are seeing that their hopes for development are being frustrated by "the system." They are no longer willing to accept that their future should be mortgaged to such issues as to whether a civil

servant is entitled to five personal servants or not. The time is coming when they will no longer be willing to let their organizations be playthings of politicians.

I believe that this increasing awareness of rural people will, in itself, be the salvation of the professional managers and administrators who are involved in rural development. This is all the more reason for speeding up the involvement and participation of rural people in their own development. The faster this is achieved, the sooner they will learn to use their institutions effectively -- and they will use these institutions not only to increase their milk production and their agricultural productivity, but also as instruments of economic and social change: for fulfilling, in fact, their own economic and social aspirations.

I believe that Mohan Kumaramangalam was one who knew this -- and that it is only fitting that I should restate it on this occasion, when we remember and honour his name.

Thank you.

Indian Dairy Association (Western Zone)

Worli Dairy, Bombay
December 10, 1983

Symposium on Socioeconomic Impact of Operation Flood

Keynote Address

Distinguished Minister of Dairy Development of Maharashtra, President and members of the western Regional Branch of the Indian Dairy Association, distinguished guests, ladies and gentlemen ...

I take it, and I would like to believe that the Western Region honoured me by asking me to speak at this symposium because they were aware of the attacks being increasingly mounted on Operation Flood, on everything we stand for, and on me personally. It is, therefore, a measure of your support to Operation Flood, and if I may say so, even to me, that you have asked me to speak to you. But I am also conscious that in this audience there must be people who have grave doubts about Operation Flood. And therefore, when I accepted this honour of meeting with you today to inaugurate this symposium, I did ask the organizers what really was expected of me. And they said what was really expected was that I should explain before the Western Region what is Operation Flood as I see it; and secondly, that I should touch upon some of the responsible criticisms of Operation Flood and either give adequate answers, or agree that these criticisms are justified. After all, this is the Indian Dairy Association, a professional association, and there is nothing wrong if we openly say what is good about the programme, what is wrong about the programme, and what we should do to further improve the programme.

So although many of you may have heard this before, I will plead your indulgence to explain the basic principles underlying Operation Flood.

The trouble with these principles is that they are so very simple. So simple that some people tend to overlook them, or to cloud them with emotions and self-interest.

Let me first explain Operation Flood.

How did Operation Flood come about? That should explain a lot about Operation Flood. It came about, as you perhaps know, because the then Prime Minister of India, Shri Lal Bahadur Shastri, accepted the invitation of the Kaira Cooperative, "Amul," to inaugurate their very modern cattle feed compounding factory, which was set up in Anand, in Kaira District. It was one of the latest types of cattle feed plants, modern and automated. We thought that such a fine plant deserved the Prime Minister of India to come and inaugurate it. And so we invited him. To our great pleasure he accepted our invitation. Then, one day shortly after the Prime Minister had accepted the invitation the Chief Minister of the State of Gujarat sent for me. He said to me, "Dr. Kurien, I have received a message from the Prime Minister of India. He says that the programme we have suggested should be modified." And the modification he needed was that instead of staying in Anand in my house as the programme said -- you know, you had to stay in my house in those days because there were no guest houses in Anand and no hotels of course — the Prime Minister would like very much to stay as the guest of a farmer in a village in Kaira District. Now this was an unusual request. As far as I know, our Prime Ministers have not stayed in a village after their becoming Prime Minister. Therefore there was the problem of having to arrange it. So I told the Chief Minister: "Sir, if this is to done -- and since I have been involved in Prime Ministers' programmes before -- you surely are going to depute 300 policemen to this village and the whole population of this village will be 300 or 400, and if you send 300 policemen, what is to happen to this village, and what will the Prime Minister of India see other than a police camp? So, why do you do this? Why don't you do a new thing like the Prime Minister himself is doing? Why don't you ask Kurien to be the policeman, to protect the Prime Minister? I will protect him, don't send any policemen."

The Chief Minister then sent for the Home Secretary, who immediately said, "This is all very well, you know, but if something goes wrong, and if there is that one mad man or two somewhere in this country, who knowing that the Prime Minister is going to be unprotected in the village, comes there and takes a shot at him, then it is not Dr. Kurien who will have to answer; it is I as the Home Secretary of Gujarat, who will have to answer. So I am not prepared to let it be handled by Dr. Kurien. But," he said further, "since I know Dr. Kurien and we are friends, and I know what he wants, please allow us, Mr. Chief Minister, to arrange this our own way and we will do it in absolute secrecy. Nobody will know that the Prime Minister is going to the village."

So, accordingly, as the Prime Minister was driving towards Anand from Ahmedabad, his car alone was diverted to a village. Now, I had picked a small house -- it was not a hut; it was made of bricks -- and I had told the owner of this house, a farmer, that he was going to have some guests. He asked, "why do they want to come here?" I replied, "you know they are two foreigners who want to spend the night in the village." He said, "Sahib, why do these foreigners want to spend the night in this house, in this village?"

I said, "You know all foreigners are mad!" I hope if they hear this I shall be forgiven. "You know they are all mad. They have strange likes and dislikes sometimes. And if they want to spend a night in your house, what does it matter?" He said, "All right Sahib, why not? But, what shall I cook for them?" I said, "Whatever you normally cook and eat; give them the same things you eat." He then cleaned up the house. One hour before the Prime Minister arrived, I went to the village again for a final check and then I told the farmer, "Your guests are two people as I said, but they are not foreigners; one is the Prime Minister of India and the other is the Chief Minister of the State of Gujarat." Whereupon, to my horror, this farmer broke down weeping, and he said, "The Prime Minister in my house, what have you done!" And I told him, "Prime Ministers and Chief Ministers are good people. They are also people like you and me, and there is nothing special. You just treat him as you would treat any

guest. That's all that is required. And now, good-bye to you, and good luck."

He said, "You are going?" I said, "Yes. I have no place here and my wife is awaiting the Prime Minister in my house, the guard of honour is there, there are Ministers who have come to my house to receive the Prime Minister. Somebody has to go to explain to them why the Prime Minister is not coming there." So, I went back.

The Prime Minister ate with the farmers, and then he proceeded to walk around the village ... from 8 o'clock onwards in the evening. Most of the people kept awake while he walked from hut to hut, and he inquired, where do the *Harijans* live, are there any minorities here? Yes, sir. There are some Muslims. Where do they live? May I go and sit with them and talk to them?

Accordingly, he went from hut to hut and he talked to them about cooperatives, about milk cooperatives of which they were members. And what was going on in the milk cooperatives, and were they satisfied? What were their complaints? And how was dairying? And how was milk produced by them? What about their cattle? What about their fodder? What about their feed? He went on like this till 2 o'clock in the morning and even then he had to be ordered to bed because his programme next day started at 7 o'clock in the morning.

The next morning I had the privilege of meeting Mr. Shastri for the first time. I received him at the village milk collection center run by the village cooperative. There he saw the working of the cooperative and then he came to Anand and stayed in my house. He inaugurated the cattle feed plant, and after doing so, before he left, he said, "Come Kurien, sit down. You and I need to talk." And he said, "Kurien, I spent several hours last night in this village meeting farmers and talking to them and not to any officials for only one reason: I know that in India there are many dairies built by the Government, run by the Government, but I also know this is the one dairy that has been built by farmers and run by farmers and I also know that this dairy called the "Amul Dairy" is the greatest success

(if you don't mind my quoting the Prime Minister) among all dairies in India. It continues to grow, it continues to put out dairy products of excellent quality, it has established a reputation for its trade name “Amul”. And this is a cooperative.

"And in my judgment, Kurien, cooperatives are all not successful everywhere. How is it that this dairy -- of all dairies -- is a success? How is it there are no other dairies like this in the rest of India? So I looked very carefully," he said, "I looked first at the soil, the good soil of Kaira District. But it is not better than the soil of the Indo-Gangetic plain. Vast lands in the Indo-Gangetic plain have better soil. I looked at your buffaloes, and if you don't get angry with me," the Prime Minister said, "these buffaloes are not all that good, compared to the buffaloes I remember in Uttar Pradesh, where I come from. Those buffaloes are better. And I looked at the farmers. Good people, as farmers always are; but not as hard working, not as determined to succeed as the Punjabi farmers. And yet, there is this Anand here.

"Kurien, I came and stayed in this village to try to understand what is the secret of Anand. Now, Kurien, will you tell me what is the secret?"

I then sat down to explain a few of the principles. And these, ladies and gentlemen, are the principles underlying Operation Flood. These are very ordinary things. All of you know them. But permit me to mention them once more.

The first thing I said was, "Anand is *here*, because Bombay is *there.*"

Production is *here*, because a market is *there.* There cannot be production of anything unless it can be marketed at a price that is advantageous to those who produce it, and which provides them with an incentive to produce more. There will be no Anand if there is no Bombay. There will be no production if there is no market.

And I went on to explain, "Sir, you must understand that we have excellent people in our Departments of Agriculture. Our Directors of

Agriculture of all states are very fine people. They have Ph.D.s and so on from foreign universities. They will talk of agricultural development, they will say provide better fertilizers, provide better irrigation, give them better seeds, use pesticides. But, sir, they will never speak of marketing because they are unfamiliar with marketing. They don't know it. If you talk with the Director of Animal Husbandry, he will speak about semen. He will argue about the semen. Or the quality of the bull. He will talk about proven bulls and non-proven bulls. Some other fellow will say that we have native breeds and don't want foreign ones. They will talk about foot and mouth disease vaccine. They will talk about better feeding, fodder. But they, too, will not speak of the market. They too will not say that if you want to produce anything, or if you want to sell what you are now producing, it must be to the advantage of the farmer. Would you not assume that the farmer is not a fool? If you give him any profit in production, he will produce more. So," I said, "the first secret is that Anand is *here* because Bombay is *there.* And I am particularly happy, Sir, to pay my tribute to the Bombay Milk Scheme. No Bombay Milk Scheme, no Anand."

Secondly, I pointed out to the Prime Minister that if you try to create an Anand next to Bombay -- let us say within 30 or 40 miles of Bombay -- you will not succeed. When he asked "Why?," I replied, "Because in Anand we have an organization, a cooperative. We have a pasteurizer. We have a Kurien and company. And when we combine all these, the Bombay market becomes open to us. Without this, the milk cannot go to Bombay. So you must have these institutional structures, these organizational structures which are necessary in order to take that milk to Bombay, and therefore Anand succeeds. But, if you try to build this within 20 miles or 30 miles of Bombay, you will fail. You will fail because you don't need that pasteurizer to take the milk 30 miles to Bombay city. You don't need this Kurien and his equipment, his technical and his administrative colleagues. A *bhaiya* will take the milk on his bicycle and sell it. Therefore, if you try to create an Anand very close to the market you will not succeed."

A classic example of this is the Delhi Milk Scheme. They restricted collection to a 30 mile radius. When you restrict collection to a 30 mile

radius and you build a large dairy with a large staff, you will find that the *bhaiya* will get the milk. And, unfortunately, the pricing of milk is a political decision. The Delhi Milk Scheme decided to sell milk at a lower price. Now, with its lower price and higher overheads, who will get the milk? Not the Delhi Milk Scheme but the merchants. In winter, you will get the milk because there is surplus production. But in winter everybody has milk and you cannot sell it. In summer you don't get the milk, but you have the market so what to do? So I pointed out to the Prime Minister that an Anand should be created a few hundred miles away from the city. That was the second principle.

The third principle -- and you will see that these principles are all very simple -- is this: that if you set up, as my distinguished colleagues did in Baroda, a dairy in Baroda and organize village cooperatives around it in Baroda District and collect milk and try to market it, you will not succeed. Why? Because if you are collecting milk and marketing it, then the assumption is, you will market what you collect, no more, no less. Milk is perishable. So if you are collecting milk, you have to sell that much milk. As the collection increases, the assumption is that the market will increase to the same extent. In other words, procurement and market must rise in unison. Any marketer will tell you that this will require some miracle. And what happens when summer comes and production goes down? The market will not shrink. So if you collect and market it, you will not succeed. Most of our milk schemes -- those which have started under the first, second, third, fourth Five Year Plans -- all of them ignored these very simple principles.

What was our solution to Baroda;? I invited the Chairman for a discussion and he said, "We collect 25,000 litres, we are selling 25,000 litres. To get that 25,000 litres in summer is extremely difficult. In winter, if more than 25,000 litres of milk comes in, we cannot sell the extra milk. So, Dr. Kurien, we are in trouble." I said, "All right, here's the solution -- and this is one of the basic principles underlying Operation Flood -- I will give you another 25,000 litres from Anand, I will give it to you in summer. You go and capture the market in summer." To which he said, "At what price?" I said, "You are my brother, you are from a brother cooperative.

The price is not relevant. You take it, you market it, you deduct your expenditure, give me whatever is left." So the Chairman said, "If that is so and Anand milk is good quality, then you give me 25,000 litres. I will certainly sell 25,000 litres in summer." So, he took it and sold 25,000 litres in summer. What was the implication? Those who were getting milk from other sources, from *bhaiyas*, from merchants, from all the others, their market was captured by the Baroda Cooperative Dairy and then, where will their milk go? Their market was lost. So the Baroda Dairy found that as they captured an additional 25,000 litres market, their procurement rose by 25,000 litres. So, we were operating in a closed circle. We proceed on the assumption that in the city of Bombay or in that city of Baroda, everybody gets some milk at some price, of some quality. And, therefore, if you capture that market, the milk which you were previously using, will come through the procurement systems of your cooperative. So, capture the market. This implies that you should have some milk, which normally is not coming to Bombay or to Baroda;. And that is the milk powder and butter oil from Europe which we used to capture the market. As we capture the market, the procurement comes -- as long as your pricing is right.

What is the next principle underlying Operation Flood? That is best explained by the fact that Bombay has 100,000 buffaloes kept within the city of Bombay or in its neighborhood. These 100,000 buffaloes are kept here -- you went into it in your last symposium -- to produce, let us say roughly, 600,000 litres of milk a day. Now, we all know, as dairymen, that buffaloes produce milk for their calves, not for us. So, to bring a buffalo in to production, it must drop a calf. No calf, no milk. So, 100,000 buffaloes are brought into the city of Bombay with 100,000 calves. And, you know that these calves are a liability in Bombay city. If you keep them here, they drink milk and leave you with less milk to sell. Therefore these 100,000 buffalo calves are a liability and it so happens that within a period of 15 days of these calves arriving in Bombay, all of them, without any exception I'm told, die. They die not because we are not holy people. We are holy people. We don't kill them, we merely don't feed them. We dip their mouth in a bucket of water till they die or we trample on them.

Whatever we do, 100,000 calves are destroyed each year in Bombay city alone.

And in Calcutta, cattle are brought from as far away as Haryana, the finest of our cow herds, because Bengalis like cow's milk. They prefer to make sweet things like *rasgulas* from cow's milk rather than buffalo milk and Bengalis have a sweet tooth, apart from being very sweet people. So they take these cows to Calcutta and they milk them dry. But there is a law that cows cannot be killed, or rather that useful cows cannot be killed. So they break their legs, and now they can be defined as useless cows and can then be killed. Calcutta has ravaged the national milch herd from our best milch animal pockets of Punjab and Haryana.

And if 100,000 calves are destroyed in Bombay, and if in Calcutta about 175,000 calves are so destroyed, what a sad thing it is. Buffaloes cannot give milk in perpetuity; after seven or eight months, they will become dry. In Bombay city, there are not many bulls. So when these animals become dry, they are not pregnant. If they are not pregnant, what shall we do with those dry animals in the city of Bombay? As you know Bombay does not grow fodder. How will you feed an animal which is not producing anything? And who will feed the animal? So, these animals which have become dry are then a liability. So they are sent into the rural land 400 miles away to meet the bull, become pregnant and drop the calves and then they will make their second journey in to Bombay. But when a buffalo has passed its fourth lactation or so, I understand that it is sent to the slaughter house. We can argue about the actual figures if you wish. But I don't think we can argue about these facts. Bombay city alone destroys 100,000 calves, the progeny of the finest buffaloes in India -- because none but the finest buffaloes are profitable under the adverse economic conditions of Bombay city. You cannot keep useless cows or low-producing animals and make money. So the city dairymen pick up the best from the rural hinterland as far away as Rohtak, bring the finest of them here, kill the calves within 15 days and half the buffaloes when they are dry.

Now that is the way, you know, milk comes to Bombay city on four legs. That was the traditional way of doing dairying. It was done that way in all the countries in Europe and in America. But as they developed the technology to move milk instead of cows, they kept the cows where they could most economically be kept, to produce milk under the most suitable agro-climatic conditions and they shipped the milk in tankers to the city to market.

We learned that technology over 30 years ago, thanks to the Bombay Milk Scheme. But we still continue to bring our milk to our cities on four legs. Now, if you will look into this further, assume for a moment that Kurien is a magician and he has willed these 100,000 animals, which are in this city of Bombay, to some place outside this city, let us say 100 miles away, where there is water and fed. Assume that he has shifted them tomorrow. How much milk will these animals produce in rural conditions? My answer is that they will produce the same amount of milk as they produced in the city. They will produce 600,000 litres in the country too. So by shifting the animals, you don't lose milk. How much will the herd produce in the second year, if 50,000 of them are not destroyed in the slaughter house? The answer is not 600,000 litres but 900,000, assuming that the area produces more fodder and food to support this extra milk production. Next year 1.2 million litres, the next 1.5 million litres. But now, in the fourth year the female calves that you would have destroyed in the city -- the 50,000 of the 100,000 calves that are females -- would come into production. Let us imagine a graph showing what this Bombay herd will produce if they are kept in the rural areas and allowed to remain there where they should belong. The answer is, starting with 600,000 litres of milk, the milk production will go up to 8 million litres of milk, provided you increase the fodder and feed availability to support this increased production. Or provided, as someone said, that the area continues to support 50,000 of the lower type of buffaloes for supply to the meat market of Bombay, maybe then you do not have to produce more fodder and food also, because the herd size will be kept reduced; but now this time the culling will take place from those who are not the best producers.

So, what is the Operation Flood? Operation Flood is really only the recognition that: if you stop taking the milk to the city on four legs, leave the animals where they belong and help those people who normally keep them to improve their production; if you provide them marketing facilities, create an Anand for them wherever they are settled, and tankers to bring their milk in; then a flood of milk will take place. So that is how the term Operation Flood came into being. On thinking back, maybe it was not a very wise name that I selected, I suppose, but anyway that is Operation Flood.

I also selected this phrase "Operation Flood," because the World Food Programme -- which was helping us and from whom we got all these commodities free -- said this project's name is "WFP-618". Now I didn't want this "WFP-618". I wanted it to be *India's* "Operation Flood" — and not *the World Food Programme's* "WFP-618". I had some pride.

Now there is yet another principle of Operation Flood. I am one of those who believe that no one will give you anything until you are in a position to take it if you are *not* given it. It is no use farmers shouting that they want better terms of trade. They will get better terms of trade only when they get organized. There is no doubt at all about this in my mind and I have experienced this. Labour in India was a grossly exploited commodity before India became free. The labourers -- workers in factories -- were treated worse than buffaloes. They were just a commodity. They had no rights. After freedom workers got organized into labour unions. As they got organized, their bargaining power came into play. Next, as they began to bargain they began to get more and more of the good things of life. They were in a position to demand a higher wage. Maybe some of you may feel that they have now reached the stage where they get a little more than they deserve, but that point does not concern Operation Flood. The point I am making is that labour got a fair deal only when they got organized.

Underlying Operation Flood, therefore, is this thesis: there is an opportunity to organize the farmers around a cooperative union. You may call it a Kaira Union, you may call it a Baroda Union, you may call it any

other union -- a Maharashtra Union. The farmers' cooperative union gets combined with professional management. And you know, I am as good as any one else when it comes to espousing the cause of farmers who employ me. I am as good as the Tata's or Birla's public relations men in espousing the cause -- the just causes -- of farmers. And I can thump the table in front of people who make policy and present the case of the farmers. This is the only way in a democracy, you know. Decisions are made by governments in a democracy under pressures and pulls. If the farmer is not organized to apply any pressure or any pull, then you will have a situation where the cities will get everything. They will get a planetarium, they will get Jaslok hospitals, they will get race courses, they will get fountains with coloured lights, they will get everything!

There is nothing wrong in building fly-overs in Delhi. After all, Delhi is our capital. There is nothing wrong. It only becomes wrong when you have not built an approach road to a village. There is nothing wrong in having coloured fountains with coloured lights. After all, Delhi should be beautiful. We should take pride in our capital. But it becomes wrong when we have not provided drinking water in our villages. There is nothing wrong if you have a Jaslok hospital or the All-India Medical Research Institute. These are good things. After all if Kurien gets cancer, where else can he go, and he will live another two years perhaps. But it becomes wrong when you have not arranged to have two drops of disinfectant put into the eyes of a new-born child in a village and that child becomes blind. That disinfectant would have cost you almost nothing, and you have spent tens of millions of rupees in building five-star hospitals.

Why has this happened? Because policy-making is in our hands. We, the elite, are making policies. Naturally, perhaps even unconsciously, when we make these policies we make policies that suit ourselves. As we usurp these resources somewhat shamelessly to benefit ourselves the charitable interpretation is that we do it unconsciously.

Therefore, if the imbalance between the cities and villages, the imbalance between industry and agriculture, is to be corrected, then it becomes necessary that farmers should be organized.

I started my life as an apprentice officer, before freedom, in the Tata Iron and Steel Company. The steel plant was not being run by Mr. J.R.D. Tata. It was being run by his American General Manager. The professional management Mr. Tata hired. He combined it with his money power, with his common sense, with his ability and with his character. And he built an industry to be proud of. But without professional management, this would never have happened. Today, India is the tenth largest industrial power in the world. Why? Because we combined our native shrewdness with such money as our industrialists had and we made this country the tenth largest industrial power in the world. I put it to you that the greatest power in India is the power of its people. Six hundred million farmers and their dependents. What will happen to India if you mobilize these six hundred million farmers? Combine this farmer power with professional management? What can they not achieve? What can India not become?

So, well, we had an opportunity of creating a structure called "Operation Flood." I, throughout my life, have been an employee of farmers and I wish to assure you ladies and gentlemen that it is not because I could not get employment in the city of Bombay or in any other city. I have remained an employee of farmers only because I felt I had the best job that I could ever get. I did not do it out of nobility of character. I did it because I had the job which gave me the greatest pleasure, the greatest satisfaction. Money is not the only satisfaction one can seek. There are several other forms of satisfaction. These were available in Anand. Therefore, I would have been a fool had I left.

Now, when I think back to 1949, it was a sheer accident. I hated it all. By shear accident I landed in Anand. I was not trained to be a dairyman. I did not know anything about dairying. I had no degree in agriculture or animal husbandry or veterinary science. I had studied physics and I had studied engineering. I had studied nuclear physics and metallurgy. I happened to go to Anand, because I had to go there, because I was on a contract with the Government of India. And I met a farmer leader called Tribhuvandas Patel, and he told me that he needed

me to put up a dairy, to operate a dairy. The farmers of Anand would be grateful if I remained there and did not go away -- though my resignation had been accepted by the Government. I was so very happy that I lit 13 lights, 13 wicks. The day I went to Anand was a Friday, the 13th. And I was told that it was a very unlucky day. I said it is very good, now I would be able to leave Anand very quickly.

But then I got mixed up with this Tribhuvandas and his farmers and his cooperatives. What has this combination done? Whether you like it or not, you will agree that this accident has made dairying in India a little different from what it was before. It may have been an accident, but it is certain that dairying has not been the same because this accident happened. This is why we have started the Institute of Rural Management with the help of the Government of India and the Swiss Government: to train managers. But this time, they shall not go to an "Anand" by accident. They shall not go after they have studied nuclear physics. They shall go there after having studied agribusiness, management of agriculture -- with a rural orientation. Then, even if five Kuriens are turned loose in the field of agriculture each year, will agriculture be the same, just as dairying has not been the same?

So, all I am submitting is that when I had the privilege -- and my colleagues had the privilege -- of creating a structure called "Operation Flood," we thought planning for it was also necessary. Now I was fortunate because I had colleagues who were well-educated, who understood something of economics, who understood something of sociology, who understood something about planning. They were not just dairymen only. Therefore, when Operation Flood was being drafted, the question was faced: what is true development? What we wanted was *development of man* and that too, development of the most neglected of our men and women in India, that is our farmers. This could be achieved only if we dragged them into the process of development. Gave *them* the responsibility. You know what the British told us? What are these damn Indians going to do? Why do they want freedom? What will these Gandhi *topis* do? They cannot even speak English properly. This is what the white man said. Why, if I give them freedom, they will only mess it up.

Now our brown sahibs say, why trust the farmers? Why give them full responsibility? They will only mess it up. How strange; how very strange and how very sad that our own people do not trust our own people! Our great grandfathers must have all been farmers because there was no industry here. And we say, how can we let the farmers run the dairy? We officers are all that is required. Yes, we are required. Just as Mr. Tata needed a manager, we too are required. But as employees of farmers, not as their bosses. That is the only way. That is the most important principle.

And so it was that Prime Minister Shastri's visit led to Operation Flood and the opportunity to put these principles into practice. Naturally, I ran in to trouble. I ran in to trouble because dairying was already dominated by the government structure. Over 100 dairies had been built in different parts of the country. Whenever there is a problem, a department is created. A commissioner is appointed, a joint commissioner immediately follows, and an additional commissioner. A whole hierarchy is created. Our approach in India has been to gradually and certainly make this country a country of officers, ruled by officers, for the officers. Now I personally feel we should learn a lesson from other countries which have developed dairying, be it New Zealand, be it Denmark, be it Holland. There too dairying has developed. There is no milk commissioner in Copenhagen, there is no milk commissioner in Wellington, New Zealand. But there is milk there. Here, in every one of our cities, we have milk commissioners and until recently there has been no milk. So, there are some lessons to be learned.

What we have to do is to organize people, place them in command, be their employees to give them the technical, administrative and other infrastructure and then you will see that our farmers will become powerful. I submit to you that "Operation Flood" is a project which places its faith in the people of India, a faith which in my opinion is fully justified. It is justified because the good people of India are those who live in our villages. They live close to nature, they commune with nature. They are not ambitious -- all the ambitious fellows have already left for Bombay and Delhi. All the good people are left in the villages. It is necessary that we

mobilize these good people, who only want to live and let live, who have no ambitions other than to have a better standard of living for themselves and their children. We must involve *them* in the process of development.

Ladies and gentlemen, whatever criticism you may have, and I may have, of the Government, its structure and its bureaucracy -- and I am one of the most violent critics -- we must also accept that in 35 years this nation, with all its handicaps, with all the criticism, has become the tenth largest industrial nation in the world. India is a mighty country. I have therefore no doubt whatsoever that in the next 25 years this nation will fly its flag among the most powerful nations of the world. Of that let there be no doubt. Whatever the Government, whatever messing up we may do, whatever bad things Operation Flood may do, India is bound to become a very very powerful nation. But then you know and I know that power is not always a good thing: that when that power is exerted, is used by a few, when the power is in the hands of people who are not good, it can be an instrument for evil, a bad thing. So, I am afraid of India's power and I therefore put it to you that before the next 25 years lapse, we must equip and embolden the good people of India to apply their pressure on the evolving policies of the country.

I want our farmers to play an effective role in shaping the policies of India, *before* India becomes very powerful. I want these good people to bring pressure on our policy-makers, so that our policies are good, so that power in the hands of our people will not be a danger to us or our neighbours. So that it will be a power that will be used for the good of our nation. I put it to you that it is necessary to involve our rural people and not to keep power in our own hands, not to keep power in the hands of those who are educated -- who have a college education -- in the hands of those who are wearing good clothes and have a full belly; let the poor also participate. Then -- only then -- this power will ensure that India will not only fly her flag among the most powerful nations of the earth but she will also hold aloft the flag of all good causes of all oppressed nations. Then the power of India will be a good thing. You may considers us visionaries; we may say that we are not only dairymen: as developmental economists, as people concerned about other people, it was necessary to

erect a structure that would drag our people into the decision-making processes and underpin democracy in Delhi, with democratic institutions all the way right down to the village level. What is the meaning if there is democracy in Delhi, but there is no democracy at the grassroots? How can that democracy sustain itself? Democratic institutions are the only way.

What is a village cooperative if not a school where our future leaders are learning how to manage their own affairs? What is the district union, if not a college where elected representatives go and get "post-graduate training" in management, business and money? Is this not required, if tomorrow our leaders are to be responsible people, used to handling power? So, it is with all these in mind that we thought of Operation Flood.

Now I will touch upon one or two questions -- or shall I say criticisms -- about Operation Flood. One I would like to take up, because I think it is criticism well meant. This is the criticism that Operation Flood is merely transferring nutrition from the village to the cities; it is transferring nutrition from those who probably need this nutrition more to those who are like us; it is nothing but a scheme that transfers nutrition, deprives villagers in order to feed the city people. My answer is very simple. It is true that the poorer the farmer, the greater the temptation to sell all the milk, and to make a little money because his child or his wife is sick or needs money to buy some school books. Whatever the reason may be, you must understand that the milk consists basically of two important components, one is fat and the other is protein. Milk fat is three times the price of vegetable fat and even though I am the Chairman of India's Dairy Board, I shall not be able to put forward the thesis that milk fat is more nutritional, better or in any way superior to vegetable fat. While I could argue that milk’s protein efficiency ratio is slightly better than that of soya protein or pulses and so on, these arguments have no meaning to a hungry man. He should take vegetable protein and fat, available fat and protein, at one-third the price of milk fat and protein.

I put it to you: is it really correct to say that this expensive food must be eaten by the poorest of the poor? Instead I would submit that he should keep a buffalo, produce milk and sell it to us, and then spend one-third the money he gets to recoup what he has lost and the other two-thirds to meet his own needs. The problem -- as I think everyone knows in this country -- of nutrition in India is calories. Our poor get one meal only because they are poor. Malnutrition is the function of poverty and the cure for it is to increase the income.

The man who built these skyscrapers in Bombay, he has no house to stay in. Is the answer then to tell him that until you build your own house, you are not to build my house? The man who wove this shirt does not have enough cloth to wear. Is the answer then that we close down our mills and tell him, you weave your own cloth? The man who produces our milk, yes, like the man who produces our rice and our wheat, is not getting enough to eat. The answer is not that he stops his production or stops selling what he produces. The economic answer is that for the man who built my house, I offer wages so that he can afford to have, or build, his own house to stay. The man who wove my cloth earns a wage, so that he can also afford a shirt on his back. And the man who produces my milk should be paid a price so that he too can afford to keep back some for himself and his children. The answer is not to say, “do not sell the milk.” If you do that, you get into a contracting cycle of production and we go backwards. And that is a thesis that I think the economists would accept.

So I submit that what Operation Flood has best achieved is not something wrong. It is something that increases the income of our farmers. We know in Gujarat farmers doubled their income. We know in Rajasthan they have trebled their income because there the standard of agriculture is lower.

The other criticism I will address is about the long delay that has taken place in implementing Operation Flood. Though we said we would do it in five years, it has taken 10 years. Yes, this is true. It is true, too, that the cost of Operation Flood which was to be Rs. 960 million has increased to Rs. 1.16 billion. But it is also true that we increased the

selling price of our powder, so that we did generate Rs. 1.16 billion. Food aid has this happy quality that you can increase the value of your food and you can use that increase to cover inflation.

But the delay was due to the fact -- and that is very well known to all of you — that Operation Flood began when we got this commodity from the European Economic Community through the World Food Programme. We recombined them in Bombay, Delhi, Calcutta and Madras. We needed these four cities in order to create 17 Anands and organize one million farmers. For these cities to recombine milk, we had to build Mother Dairies and for these Mother Dairies we put forward the proposal for bulk-vending. And everybody -- all the pundits in the Government, particularly in the Dairy Division of the Government of India -- said that bulk-vending would never work. If you put a coin in the telephone, you do not get the connection, you do not get the coin back, and if you, Dr. Kurien, insist on this damn machine, the people of Delhi will come, put the coin in, lose the coin that won't come back and the milk also will not come and there will be riots, there will be a law and order situation and the minister will lose his job. There will be questions in Parliament and all calamities will follow. And therefore, it was not approved. We fought for three bitter years, but did not succeed. They were determined that we should not handle it. Even our dairymen were against it because they wanted a margin of, say, 75 paise per litre to run their dairies, because then they could cap the bottles with aluminium foil, and buy many other things. They were not happy at the thought of only 17 paise margin, which is all that they needed for bulk-vending. Anyway I did not get the approval.

Now if we did not build the Mother Dairy, we could not get the commodities and recombine them. If we could not recombine commodities and sell milk, we could not get the money. So the time-bound Operation Flood got delayed by non-approval of bulk-vending.

Finally I met the Minister, Mr. Fakhruddin Ali Ahmed. A very fine gentleman indeed. I developed a great liking and respect for him even if he did not approve our bulk-vending. And he said to me, "Sorry Kurien, I will not allow you to import this machine." "But," I said, "Sir, what does

150,000 rupees mean to India. Now please allow me to import 200 and we shall have them made here in our country later on." "No. Kurien," he replied, "I am sorry, I tried my level best, but we cannot." "Then Sir," I asked, "are you suggesting to me that if I want bulk-vending, I have to design and build it myself?" He replied, "Kurien, I am sorry. That is the only way out." So we designed and made the bulk-vending systems. It took us four years of the project to get it finished, and that was the main reason for the delay in Operation Flood.

With this, since the time is up, I will close. Let me only say this: we must -- each of us who has been given some responsibility -- always remember that our job is not just to do that job. We must always seek the larger dimension of total development. It is our job to see that we involve our people in development. If we wanted only to build up Operation Flood we would have designed it in such a way that all these dairies were built and owned by the Indian Dairy Corporation. After all it was our money. And, after all, the Government of India has built their own factories all over the place and owned them. HMT has built a watch factory in Srinagar, which they own. We could have built a dairy in Jalgaon for the Indian Dairy Corporation and run it under our name. There would be nothing to it. Particularly when you allow the foreign companies to build dairies in this country. We could have done so, implementing Operation Flood without any effort. But the Dairy Board did not do it because it is not in the business of building its empire on the backs of farmers. There is no agency of Government, in the whole of this country which, after spending ten billion rupees -- which is what the Dairy Board and the Indian Dairy Corporation will have spent -- will own nothing. I take pride in that.

Ladies and gentleman, you must forgive me if I have spoken with passion. If we commit mistakes -- the only fellow who commits mistakes is the fellow who does something -- the fellows who do not commit mistakes are those who don't do anything -- then, tell us. We have never refused to listen to criticism which is honourable, which is meant only to improve, not to defame.

Thank you.

Board of Extra-Mural Studies, University of Poona

Pune
January 19, 1984

Shri Ramchandra Sarvottam Dubhashi Memorial Lectures

Dairy Development Through Cooperatives in India

Mr. Chairman, honoured guests, ladies and gentlemen...

It is indeed an honour and a great privilege to have been invited to this forum to deliver the Seventh Annual R. S. Dubhashi Memorial Lecture. I did not have the privilege of knowing Dr. Dubhashi personally. However, Dr. Dubhashi was well known to all of us for his love for living things, for his keen interest not only in horticulture but in the ways of using horticulture to restore our declining nutritional standards.

I am sure that Dr. Dubhashi would have approved if, while expressing my views on the prospects of our dairy development, I should also talk to you a little about Operation Flood, the world's largest dairy development programme, which has sought to modernize India's dairying by enabling rural producers to play an increasing role in the processing marketing of the milk they produce. This should be in the fitness of things particularly because by making increasing quantities of rural produced milk available to our urban populations, Operation Flood, also contributes to raising the nutritional standards of our people, a cause which was very dear to Dr. Dubhashi.

I also believe that had he been in our midst today, Dr. Dubhashi would have certainly been happy to learn that the Government of India has recently invited the NDDB to apply the Anand Pattern in a project to restructure Delhi's fruits and vegetables business on cooperative lines -- just as we have been doing in our dairy sector. However, before I describe to you how Operation Flood has modernized India's dairying and, indeed, why it has been able to do so, I should like to briefly talk to you about the conditions which led to the formulation of Operation Flood.

All of us know from our folklore and mythology that several centuries ago India had the history of traditional, but very well-developed, dairying. There used to be entire communities whose main occupation was dairying, who bred high producing pure breeds of cows and who used their land exclusively for raising cattle. Over time however, as the pressure of a growing human population increased, the feeding of cattle suffered because more and more land had to be used for producing staple food and fibre. The breeding of cattle also suffered because more and more bullocks were required to till the new inferior land being brought under cultivation and, as a result, cattle came to be bred for producing strong fast bullocks rather than good cows.

In more recent times, these retrograde tendencies were only further reinforced because there did not develop any appropriate marketing structure which would link the rural milk producer with the consumers in our burgeoning towns and cities. Instead of transporting rural produced milk to the towns, the traditional milk traders chose to take the milk animals to the towns. As a result, rural milk producers had no incentive to increase milk production.

The efforts of the central and state governments to rectify this situation also did not come to much. The milk commissioners and dairy development departments were swayed by their political masters' concern to keep the local urban population happy by supplying them low price milk by using cheap, imported dairy products. This served as a further disincentive to indigenous milk production. On the other hand, the animal husbandry departments evolved schemes to supply production-enhancing inputs to milk producers, especially in the Intensive Cattle Development Programme areas. I have always wondered why milk producers should ever want to increase their milk production if they did not first have access to a remunerative market for their surplus milk.

While milk producers all over the nation's milksheds gradually resigned themselves to their fate, and while the milk merchants had a free run, the farmers of Kaira, a milk surplus district in Gujarat, took an entirely different path. In 1946, they called a strike against the Polson Dairy and

the exploitive milk contractors who had a monopoly right to collect milk from the villages of Kaira and to supply it to the Bombay Milk Scheme of the then British governed Bombay. Instead of living at the mercy of Polson, the farmers, under the leadership of Sardar Vallabhbhai Patel, decided to form their own cooperative and supply milk directly to the Bombay Milk Scheme. The Kaira Cooperative, which is now popularly known as “Amul”, made a modest beginning with two village cooperatives collecting about 250 litres of milk per day. This cooperative grew rapidly from strength to strength and ultimately emerged as the largest dairy in India. Its products, marketed under the trade name “Amul”, became famous throughout India. It became a cooperative with 330,000 farmers members and a turnover of nearly Rs. 1 billion! More importantly, it showed what the farmers themselves could achieve, given the encouragement.

Most young professionals today would pride themselves in being managers in an organization of farmers like Amul. I may, however, point out that most of them would have strongly detested the prospects of working in a place like Anand in 1949 — as indeed I did when I first came to Anand much against my own volition and better judgment. Anand, which was truly God-forsaken, used to be little more than a muddy road, a small railway station and, an antiquated government dairy where I was to do my six months' stint as part of a five-year bond that I had signed with the Government of India. While I was looking for a good enough excuse to run away from Anand, I was befriended by Shri Tribhuvandas Patel, the young cooperative chairman, and -- almost without realizing it -- I began to share his dream of building a strong organization that would free the farmers from the clutches of the middlemen. In one of my weaker moments, I accepted Tribhuvandas Patel's suggestion that I work for the nascent Kaira cooperative. I have never regretted that decision in my 33 year career as an employee of the farmers.

Against heavy odds and stiff resistance from private traders and milk commissioners alike, Amul became one of the largest farmers’ organizations in the country towards the close of the 1950s. Amul’s growth triggered the emergence of dairy cooperatives on the same

pattern in the neighbouring districts. Amul actively helped to nurture the upcoming cooperatives to strength and maturity. Together, all these six cooperatives tested the various managerial practices, bye-laws and structures first evolved by the Kaira cooperative. In the end, they developed a set of principles that would ensure proper functioning of a dairy cooperative; these principles came to be known as the Anand Pattern.

While dairying in most of the nation's milksheds continued to stagnate through the 1950s and the 1960s, in Kaira and its neighbouring districts, milk production registered a rapid increase. Once the farmers' own organizations provided an assured, reliable, year-round market and stable prices for their marketed surpluses, they started making increasing demands on their cooperatives which, happily enough, complied: first, by starting mobile veterinary clinics; then by supplying balanced cattle feed and extension services; and then by providing artificial insemination. Thus it did not come as a surprise to us that while dairy departments everywhere spent enormous resources and effort on cross-breeding to increase milk availability without much success, milk production in Kaira and other cooperative districts of Gujarat increased on its own, just because farmers had access to a new and a more responsive institutional structure for procurement, processing and marketing of their milk.

When Shri Lal Bahadur Shastri, the then Prime Minister visited Amul in 1964, he was greatly impressed by what he saw in the Kaira villages. He realized that Amul was one of the most effective examples of dairy development in our country and suggested that Amuls be created in all the nation's milkshed districts.

The National Dairy Development Board, of which I was appointed the 'honorary' chairman and which, at my request, was headquartered at Anand, was created in 1965 for the explicit purpose of replicating Amul in different parts of the country. After making many infructuous efforts to sell the Anand Pattern to state governments for five years, NDDB conceived Operation Flood, a project designed to create Anands in 17 milkshed districts selected from all parts of the country. The programme

was to cost Rs. 970 million; the funds for the programme were to be generated by sale of donated milk powder and butter-oil in the form of recombined milk to the consumers of four metropolitan cities: Bombay, Delhi, Calcutta and Madras.

This metropolitan marketing operation was also to help us prime the pump, as it were and, to give the nascent cooperatives and the Mother Dairies their much needed experience in urban milk marketing.

Delayed though it was, for reasons that I shall describe later, Operation Flood achieved most of the targets it had set for itself. Like all ambitious development programmes that work, it generated great expectations -- fair as well as unfair! Soon we began to be criticized for not doing things that we had never set out to do. However, those who followed the programme closely enough could easily see the good that Operation Flood was doing to our hinterland milksheds. And, therefore, even before Operation Flood was formally closed, NDDB was asked to implement Operation Flood II which proposed to cover 10 million rural milk producers in 150 milkshed districts in the country and which aimed to improve the supplies of milk to 150 major towns and cities. Thus, the programme would involve some 50 million rural people and some 150 million urban people.

I may now tell you briefly about what has been achieved under these programmes. Already, we have helped organize some 26,000 village societies embracing some 2.8 million milk producer families. These village societies are operating in 94 milkshed districts. In each of these districts, an Anand is emerging. Some of these Anands are in advanced stages of growth. A majority, which are young, are in the early stages of growth. Granted that now -- having learned a bit on the way -- we need not take 30 years to build an Amul. The first model did take that long. But at the same time, an Amul, like Rome, can not be built in a day!

Be that as it may, between them these 94 unions own over 6 million litres per day of rural milk processing capacity; their total procurement peaked last year at some 6.3 million litres and they have maintained an

average of 4 million litres daily since then. Since 1970 when Operation Flood began, the flow of wholesome milk from modern dairies to our cities and towns has increased from 700,000 litres per day to 3.4 million litres per day. When we consider the fact that over Rs. 5 billion of government investments in animal husbandry and dairying during the pre-1970 years could not yield any significant results -- could not even arrest the rapid decline in our per capita milk availability -- I am sure you will agree that what Operation Flood has been able to do is no mean achievement.

And yet, Operation Flood has been criticized bitterly by some people just as it has been admired by many others. While I am not suggesting for a moment that the planning and implementation of Operation Flood have left no scope for improvement, nevertheless I do feel that a majority of criticisms leveled so far against Operation Flood are unfounded. They have arisen either from the very personal predispositions of the critic about the nature of social processes; or from the ideological differences between the programme and the critic; or, more importantly, from the critic's inability to understand the fundamental principles which, in my opinion, constitute the vision of Operation Flood. Since nothing can be done about the first, and, very little about the second, I should now request your indulgence to present a brief discussion of the third: the principles underlying Operation Flood.

The *first* of these principles is: in order to create an Anand you must have access to a market like Bombay. Only a good market will enable an Anand to offer remunerative prices to the rural producers. By the same token, you can never create an Anand in a Delhi city, for the *dudhiyas* can bring milk from nearby villages at much lower cost and without any of the processing overheads and costs that a dairy plant like Amul’s require. This explains the absurdity of the Delhi Milk Scheme's efforts to collect milk from villages within a radius of 30 miles of Delhi.

The *second* principle to recognize is that our milch animals are very poor milk producers but have a great potential for increasing milk production simply by better feeding and management. This potential is left largely untapped because milk producers do not have access to a

stable, remunerative market for their surplus milk. Establishment of an appropriate institutional structure for marketing would itself unleash the producers' desire to make the most of the economic opportunity through increased milk production obtained by better breeding and management of the animals. It may come as a surprise to many scientists that several research studies have shown that wherever cooperatives have worked, the breeding efficiency in village dairying has increased just because the access to a market has increased the opportunity cost of letting an animal remain unproductive longer than is necessary. Thus, in my opinion, cross-breeding is not required to increase milk production from the present level although I do believe that the advantages of modern science -- including cross-breeding and AI -- should certainly be made available to our farmers through their own organizations.

The *third* principle, which follows from the second, is: there is a natural sequence in which different interventions in dairy development need to be made. I have mentioned earlier that if a milk producer is satisfied with one litre of milk from a cow that can yield three just because he cannot market the additional two litres at a price that covers his cost, that farmer is unlikely to accept a crossbred, which is a far more difficult and delicate an animal to maintain, until he is assured of a fair reward for all the trouble he takes. Now, all the government's efforts violate this simple logic: in my opinion, they all seek to put the cart before the horse. They give the farmer animals that will produce ten litres of milk without helping him market this milk.

The *fourth* principle, which explains the establishment of Mother Dairies and the use of donated skim milk powder and butter-oil, is: capturing a commanding share of the milk market must precede -- not follow -- the growth of Anand Pattern cooperatives in the surrounding hinterland. We learnt this precious lesson almost accidentally when, in its early years, the infant Baroda district cooperative approached Amul lamenting that they could not procure enough milk to meet the increasing summer demand in Baroda city. Amul generously offered to top up the Baroda cooperative's daily summer procurement with some 25,000 litres of its own milk. And, lo and behold, in a few days' time, the Baroda

cooperatives' own procurement had increased by over 20,000 litres daily, to our great surprise and elation. What had really happened was: when the Baroda cooperative used Amul's milk to increase its sale of milk in Baroda city, all the milk that the traditional trade could no longer sell in Baroda had nowhere to go but into the cans of the Baroda cooperative's village societies. In the case of Operation Flood, the outside milk to prime the market pump in metro-cities was obtained from the World Food Programme. Not only did it enable the Mother Dairies to capture commanding shares in the markets of these cities, but it also generated the Rs. 1 billion which enabled us to build four Mother Dairies and 17 Anands -- complete with processing facilities, cattle feed plants and other infrastructure. All this was done without putting any strain on the public exchequer.

The *fifth* principle is: in order to enable a new Anand to grow in a healthy manner, it must be provided with facilities to conserve seasonal surpluses of milk in the form of commodities. You can sell only what you collect; and, in the case of perishable commodities like milk you must sell what you collect. If a cooperative does not have conserving facilities, its procurement is rigidly linked to its marketing. Most government milk schemes, which do not have conserving facilities, are doomed to failure for this very reason. This approach assumes that as you collect more milk, your market will expand only that much -- no more, no less. This is a ridiculous assumption to make in the best of times. In the case of Operation Flood, the milk that we obtain from outside provides an additional buffer between procurement and marketing.

Finally, the *last* and the *most important* principle that I should like to mention is that no amount of technological change or tinkering with the tax or subsidy mechanisms is likely to have significant impact on our agricultural and rural development until we reform the institutional structure linking the producer and the consumer in such a way that it becomes responsive to the needs of rural people. This is best done by creating farmers' organizations, owned and managed by farmers in a manner that is subservient to their larger interests. This can happen only if all those who work in such organizations are employees of farmers -- not

government officers on deputation! You cannot develop rural people unless you give them responsibility and, one such responsibility is to let them market their own produce through organizations that they themselves own. India's biggest asset is its people; true development must mean development of these people, by placing in their hands the instruments of development.

However, if these cooperatives are to run honestly and efficiently, professional managers must be brought in to work as farmers' employees. In order to enable them to operate effectively and manage these organizations well, we must give them the necessary authority; so that the cooperative can be depoliticized, at least to some extent, if not entirely.

Ironically, one of the major reasons why it is so difficult to depoliticize cooperatives and, indeed to clean them up in various ways, is the Cooperative Act itself. This act was framed nearly eighty years ago. Because the colonial government had little faith in Indians, the act stipulated that the Registrar of Cooperatives should be a member of the Indian Civil Service and, therefore, an Englishman. The Registrar was also given enormous powers. He could, for example, supersede the elected board of any cooperative.

Unfortunately, this act continues to remain in force even today at a time when the entire context has changed. The brown sahibs, who have replaced the white men of the alien ICS, have continued to use their enormous powers, usually at the behest of their political masters, to make a mockery of the basic principle of cooperation which is that they are people's organizations.

Many of you may not be able to imagine the dimensions of this problem for cooperative organizations. If, for example, the Registrar of Companies had half the powers of the Registrar of Cooperatives then the Registrar of Companies of Bihar; state would have long since superseded the board of Tata Iron Steel & Co. and appointed, say, his Deputy Registrar or, indeed, his deputy's deputy as the administrator of the Jamshedpur

plant! It can be appreciated, I believe, how impossible it is to run a steel plant in the shadow of such an omnipotent but ignorant administrator.

And, after all, a cooperative is also just as much of a business organization as a company. The only difference is that in the case of, say, a producer cooperative, the shareholder has to be a producer and irrespective of the number of shares held, he has but one vote. Such being the case, I sometimes wonder if we should not think in terms of having a cooperative registered under a special section of the Company Act. The entire dairy industry of New Zealand is in the cooperative sector. They have cooperative companies registered under their Company Act, which registers them under a section legislated for that purpose. In my opinion, therefore, now that the country and the government are one, and since there is no substantive difference between a company and a cooperative as a business organization, there is a strong case for reducing the profile of the Registrar of Cooperative to that of the Registrar of Companies. Why should the professional managers of those cooperatives which abide by their by-laws have to bother about the registrar? After all, New Zealand has neither a registrar of cooperatives nor a Cooperative Act, and yet, the whole of its dairy industry is organized on cooperative lines!

I trust you will appreciate that getting such changes implemented in India is a very difficult task. The biggest obstacle would be the cooperative departments -- and their political masters. What would happen to their enormous powers if their profile were reduced to that of a Company Registrar? Right now, the job of Registrar of Cooperatives is a very pleasurable job and, the brown sahibs holding these jobs are virtually the gods of the cooperative movement. The position of their political boss is even more pleasurable; he is the boss of god! Dethroning these gods and super-gods -- and giving power to the people -- is not going to be easy.

Lest my stance should be misunderstood, as sometimes happens, let me make one thing clear: my quarrel is not so much with people who occupy the seats of power as the seats of power themselves. My fight is not against individuals who fill the roles of bureaucrats but with

bureaucracy as an institution and the pettiness that it epitomizes. My fight is for a new order, an order in which instruments of development are placed in the producers' hands through their own organizations. My fight is for an order in which these organizations are managed by professional managers who are hired by the farmers themselves and who are loyal to the wider interests of rural producers alone and are therefore free from the ambivalence of government servants. In my opinion, creation of such an order alone will provide a long-term solution to the problems of not only our dairy development but also of our overall development.

Thank you.

Gujarat Vidyapith

Ahmedabad;, Gujarat
October 18, 1984

Thirty-fifth Convocation

Convocation Address

Chancellor Pujya Morarjibhai, Vice-Chancellor, students and friends ...

When I was requested to deliver this Convocation Address, the surprise and pleasure I experienced in being so honoured was, I must admit, tinged with considerable apprehension.

The Gujarat Vidyapith has as its principal object the preparation of workers for the regeneration of the country in accordance with the ideals given to us by Mahatma Gandhi. As someone who -- despite great admiration for Mahatma Gandhi -- has failed to follow many of his principles, I am indeed unworthy to address in this institution he established, you, who are committed to his ideals. I was therefore tempted to decline this honour until I reflected on the fact that one of Mahatma Gandhi's fundamental beliefs was that the growth of our nation depends not on the cities, but on our villages. And it is in our villages that I and my colleagues have worked and where we have sought, through cooperation, to advance the growth of our nation.

Let me digress for a moment to tell you how I became involved in this work. I was, after all, trained to be an engineer, both in India and abroad. After my return from the United States, and much to my dismay, I was posted to a little town in Kaira District named Anand, a fate something akin to that of the bonded labourer -- or so I felt at the time. It was there that I got mixed up with some Gandhians: First with Shri Tribhuvandas Patel who, I might mention, is a graduate of Gujarat Vidyapith and, through him, with his colleagues in Kaira District: men and women like Shri Babubhai Patel, Shri Raojibhai Nathabhai, Shri Raojibhai Manibhai, Shri Madhavlal Shah and Kum. Maniben Vallabhbhai Patel and

then with Pujya Morarjibhai, your Chancellor. It was Tribhuvandas Patel who become my guru and who along with his friends moulded me into a useful instrument as an employee of the farmers of Kaira District. This was the best thing that ever happened to me. Rather than wasting my days as one of our urban elite, I have derived great satisfaction and happiness in life by serving the farmers who employ me. Guided by Tribhuvandas Patel, I learned to respect and to place faith in the farmer, a faith that has been repaid many fold. Some find it strange that a man from Kerala, a Christian, a product of our educated elite, could come to be accepted in the villages of Kaira District. This speaks first of the respect in which Tribhuvandas Patel and his colleagues are held, a respect for their essential goodness and commitment to the Gandhian way of life, a way of life that reverberated in the basic morality, decency and honesty of rural India.

Mahatma Gandhi recognized that the wealth of the nation is not in its factories and cities, not in Government offices and universities. The nation's wealth is in our rural people who have created that wealth in the face of hardship, poverty and exploitation. Throughout the last thirty-five years it has been my good fortune to have been associated with these people, people who began with a dream and who have created an instrument of social and economic change, one that links the power of the farmer with the skill of the professional. Our cooperative began with a handful of people whose only real assets were wisdom, integrity and a belief in the farmer. Today that cooperative unites 350,000 farmers in an organization that includes virtually every rural family in Kaira District, regardless of caste, community or religion. Ten times that number of farmers -- three million farm families -- now belong to dairy cooperatives throughout the nation, a movement that is growing from strength to strength. It is has spread from dairying to vegetable oil and now is soon to spread to fruits and vegetables.

Mahatma Gandhi is remembered and revered as the leader in our struggle for independence from colonial rule. What is too often forgotten is that he saw that struggle in terms of freeing our people not from the oppression of the British but from the oppression of foreign values. What

he sought was a new social order based on freedom, equality, social and economic justice. He saw the loss of our independence as due to defects in our national character as much as to the domination of a foreign power. True freedom is not the transfer of political power, but the removal of these defects. His task was to reform and regenerate our nation through his Constructive Programme. The Gujarat Vidyapith was founded as part of that programme, the creation of an Indian education system suited to the needs of our people, our culture and our genius.

Just as the Vidyapiths were formed as a constructive alternative to foreign domination of education, so too, cooperatives were a vehicle to end exploitation of the villages and our rural people. Mahatma Gandhi once said, "Cooperative societies are ideally suited ... not only for developing village industries but also for promoting group effort by the villagers." He urged that village workers should study the occupations that could be undertaken in each village and "then proceed to organize these occupations on a cooperative basis." He wrote that "... cooperative farming and dairying is undoubtedly a good goal, promoting national interests".

Cooperation has existed in our country from time immemorial: and it was this cooperation that I believe Gandhiji espoused. For, just as the British system of education was alien, so also a cooperative system organized by the Government and ruled by a Registrar was alien to our culture and our genius.

It was therefore with great sorrow and distress that those of us who hoped to see cooperatives bloom after Independence saw that while political power had been transferred, the approach to cooperation remained the same. While the numbers of cooperatives multiplied and spread to every corner of the land, our leaders and officials paid scant heed to Gandhi's words, "Cooperation, which is rooted in the soil, always succeeds," he said. Rather, many Registrars of Cooperatives and their departments saw it as their duty to uproot cooperatives that had sprung from our native soil; instead they sought to spread cooperatives merely as extensions of their departments, cooperatives that were firmly rooted in

the bureaucracy, a soil in which they might *exist*, but where they would never *flourish*. In so doing they ignored Gandhiji's admonition that "that Government governs best which governs least".

Today we in India claim to have one of the largest cooperative movements in the world; more than 150,000 cooperative organizations are found through the length and breadth of our land. Had these cooperatives been guided by the wisdom of Gandhiji, by the conviction and purpose of a Tribhuvandas Patel, they would no doubt have transformed our rural areas, empowering our farmers, allowing them to direct their own destinies. Our democracy would have been strengthened at the grass roots as our rural people learned to use wisely the power of one man with one vote. Economic justice would have been achieved in far greater measure as exploitation by money lenders, traders and vested interests was curbed by cooperation. Social justice, too, would have been advanced by the lessons of cooperation where rich and poor, Hindu and Muslim, Brahmin and Harijan unite for the common good.

We are now at work to replicate Anand Pattern cooperatives in all parts of India. In an increasing number of instances our dreams are dashed against the rocks of politics, bureaucracy, and disregard of the fundamental principles of cooperation. What should have been a peoples' movement has been officialized, bureaucratized and politicized. It is not necessarily wrong that a political person serves as a cooperative leader; what is wrong is when such a person puts his political purposes above the principles and purposes of cooperation. The cooperative can be a powerful instrument of constructive change in our villages, but only if its leaders behave with decency, honesty and integrity. We must remember this all the more in Gujarat where large cooperative businesses have come up. With great foresight and wisdom, Mahatma Gandhi once said, "The cooperative movement will be a blessing to India only to the extent that it is a moral movement".

The Gujarat Vidyapith was established to create educated people who would work with out rural people, following the standards and ideals given to us by Mahatma Gandhi. You have learned not only to preach

these ideals, but to live them. You have committed yourselves to truth and non-violence, to recognize the inherent goodness of all men regardless of their caste or religion. You have learned the dignity of all labour, and respect for those who toil. You have bound yourself to the principle that the growth of this nation depends on its villages. It is through your efforts that we must hope that the ideals of Gandhiji will continue to live, not only in books and in rhetoric, but in our actions. Not only on the Second of October, and the Thirtieth of January, but during each of the 365 days of the year.

As you leave Gujarat Vidyapith, yours will be a difficult task, one without glamour. You will be frustrated by the slow pace of change; you will be disappointed by obstacles and failures. You will face those who will challenge and oppose you. May you be blessed with the courage to be patient, in the recognition that yours is a life's work; may you have the courage to recognize problems and failures as an opportunity to learn; may you have the courage to continue to be a student long after you pass out of the gates of this institution, recognizing that the unlettered villager is often the wisest of teachers; may you have the courage to face those who oppose you with the confidence that your cause is a great cause and that the nobility of your cause will rub off on you. When we fought for freedom, we produced great leaders. Now when we fight for less worthy goals, we produce less worthy leaders. We have lost sight of the fact that the enemy in our freedom struggle was not the British, it was ourselves. Today that enemy within us is stronger, bolder and a far more dangerous adversary. You are about to become soldiers of non-violence who must win your battles if we are to truly win our freedom.

Before ending these few remarks, let me add the hope that at least some of you will be as inspired by the cooperative movement as I have been and that you will yoke your education, your skills, and your commitment to this movement, helping the people of our villages to defeat the real enemies of cooperation who are within us and to make cooperation what Gandhiji hoped it would become, a moral movement.

I wish you all well.

Andhra Pradesh Agricultural University

Hyderabad, Andhra Pradesh
December 15, 1984

Eighteenth Convocation

Convocation Address

Chancellor Sharma, Vice Chancellor, members of the faculty, distinguished guests, students and friends ...

When I was honoured by your request to deliver this Convocation Address, my surprise and pleasure was, I must admit, mixed with some considerable apprehension.

Although I have been associated with some agricultural endeavors and enterprises, I am by no means an expert in this field. To follow the distinguished agricultural scientists and others who have addressed previous convocations of this university, causes me no little trepidation. However, to speak to those whose lives are, and will be, devoted to the agricultural growth of this country is an opportunity I cannot forego.

A convocation is an end, but more importantly, a beginning. It is, therefore, a time when anticipation of the future is more important than reflection on the past. Those of you who will today receive degrees have completed what is but the first -- and with all due respect to your administration and faculty -- perhaps the least important part of your education. Your degree certifies you as one of our nation's educated elite; how you use what you have learned, and how you build upon it, is of far greater importance and will be the more difficult challenge. Your future examinations will be set not by the university, but by our nation's greatest asset, our farmer, an asset whose potential is yet to be realized.

A few weeks ago, in his first address to the nation, our new Prime Minister said that the nation’s first priority is the eradication of rural poverty. Those in this audience who recall the early days of independence will well remember that then, too, eradication of poverty in our rural areas

was the nation's foremost goal. Yet, poverty persists. While progress has been made at the fringes of the problem, today nearly half of our rural population remains poor. And because they are poor, they lack the resources, the education, the energy and the will to escape from poverty.

Why, we must ask, has the problem of poverty proved so intractable? Its elimination has been the first national priority for nearly forty years. Poverty and the problems associated with it have been studied and analyzed by our finest economists, sociologists and social scientists. Our best scientific talent has been deployed to develop the technologies that will liberate our rural poor. Our plans, and the resources that flow from them, have focused on amelioration of rural poverty. Yet the problem persists.

I would draw your attention to a rather striking paradox. Considerable and justifiable pride is taken in the great strides made by our agricultural sector in the last two decades. As recently as the mid-1960s many were convinced that, as a nation, we could not feed ourselves. Last year we produced a staggering 150 million tons of food grains; this year we shall equal or exceed that record, continuing on a path of progress that has few parallels. Yet, while production leaps, poverty endures. The rural poor -- those who produce our cereals, our oilseeds, our cotton, jute, pulses and spices -- show little gain from their efforts. Is it not curious that in a year of record production, farmer income has not increased dramatically; is it not equally puzzling that consumer prices have increased, increases that severely tax that other class of underprivileged, the urban poor?

There is an unfortunate explanation for this paradox: exploitation. It is the traders and the middlemen who have been the major beneficiaries of our green revolution. Let us, however, give them their due. They have created marvels of vertical and horizontal integration in order to finance, procure, process and market a major portion of our nation's agricultural production. Consider, if you will, only the logistics of moving cereals, vegetables, fruit, and oilseeds to Hyderabad, not only from the far reaches of Andhra Pradesh, but from every corner of India. One can only admire

such a system. And, one *would* admire it were it not for the fact that in the absence of control and competition, it exploits not only both producer and consumer, but operates with margins that allow for substantial inefficiencies and waste.

No doubt some of you have asked yourself the question I will now pose: how can such a situation persist in a democratic society? Is not one of democracy's merits its capacity to redress such problems of exploitation? The answer, whether fortunately of unfortunately, is not a simple "yes". Democratic decision-making must weave its way through a web of conflicting demands. Decisions in a democracy must, of the nature of the system, respond to pressures rather than simply resolve issues on their merits. It is an unfortunate fact that on issues that affect them, our rural poor exert little or no pressure. Weighed down by the problems of day-to-day life -- even of survival -- they are no match for the pressures exerted by the urban elite, the traders and middlemen.

Let me digress for a moment to tell you something of my own experience for it offers both an illustration and, perhaps, the outline of a solution.

It was just at the dawn of our Independence that I found myself -- much against my will I might say -- posted to the little town of Anand in Kaira District, Gujarat. It was there that I got mixed up with some rather remarkable people who were grappling with this very problem of exploitation. Kaira District produces milk -- far more milk during the flush season than can be consumed there, or in the surrounding areas. And so, the milk was purchased by traders and by a private dairy who would send it to Bombay. The profit, needless to say, went to the dairy -- not to the farmers. Shri Tribhuvandas K. Patel and his colleagues believed that through cooperation the farmers of Kaira District could strengthen their position. As you know, they were proved right. But, it was not without a struggle and not without learning that our efforts could not succeed unless we became involved not only in trading, but in supporting production, in processing, and in the marketing of dairy products. We also learned that the rural poor could command a major enterprise and, in so doing, earn a

far greater share of the consumer's rupee. But to do so, the farmers' power had to be linked with the expertise of professional management, management that would represent their interests effectively, persistently and with integrity.

The success of our efforts in Kaira District soon led neighbouring areas of Gujarat to seek our help in organizing their dairy farmers into cooperatives. As the successes began to multiply, the then Prime Minister, Shri Lal Bahadur Shastri, decided that the same approach should become the basis of national dairy development policy and, at his instance, the National Dairy Development Board was established. This led to Operation Flood.

What is Operation Flood? It is not simply a dairy development programme. It is the organization of 10 million farmers, giving these farmers a platform to articulate their needs, to demand a better place under the Indian sun. The basis of Operation Flood is giving power to our producers by combining their energies and great resources with the talent and commitment of professional management. It is therefore appropriate that some have dubbed Operation Flood the "White Revolution," for it is a revolution -- not only in production, but in creating a constituency of farmers who, served by professional managers, can exert pressures in their own interest thereby participating effectively in our democratic process. It is no accident that the incomes of dairy farmers have increased. They are organized and they have a voice. We can also take some pride in the fact that because their organizations are managed professionally, and because they are efficient, price increases to the consumer have been moderate.

This revolution has not taken place without opposition. It has been opposed by some politicians, by some bureaucrats, by middlemen, by merchants and traders. Yet this coalition of vested interests who don't want the poor to emerge, who feel threatened when the poor gain access to the stage of democratic decision-making, has failed. They have failed because of the very fact that the farmers have organized. And they have failed because the salvation of India is that in high places, in all spheres,

there are people of good intentions, of good will and of ability. Such people have not only welcomed the poor to the arena of democratic decision-making. They have actively supported and encouraged this process.

The Government of India, beginning with Pandit Jawaharlal Nehru, has encouraged what we call the Anand Pattern of cooperative development. As I mentioned, it was Shri Lal Bahadur Shastri who was instrumental in creating the National Dairy Development Board so that the Anand Pattern could be extended to every part of the country. It was Smt. Indira Gandhi whose encouragement and support was vital to Operation Flood and, very recently, to creating an alternative structure for vegetable and fruit marketing on the Anand Pattern. And it was Shri Morarji Desai who saw the Anand Pattern as the way to replicate the success of Operation Flood with oilseeds and edible oil.

Whether with milk, with vegetable and fruit, or with oil, organization of farmers into cooperative enterprises is the first step toward releasing our rural population from the bonds of poverty. By their command over procurement, processing and marketing, the farmers ensure that their share of the consumers' rupee increases, providing them with a remunerative and reliable return on their investment. Increased and stable income creates the conditions for further investment in production and productivity, an effort supported by their cooperative which provide the services and inputs the farmers require. When cooperatives achieve an influential share of the market -- as they have in milk and dairy products -- this forces the trade to conform, to compete with fair prices to the farmer and to the consumer. Most important, the cooperative enterprise, linking farmers locally, regionally and nationally, empowers the rural poor, giving them a strong voice in our democratic process.

It has probably occurred to you that if cooperatives are a solution to rural poverty, why does poverty persist? After all, today in India we claim to have one of the world's largest cooperative movements -- more than one hundred and fifty thousand cooperative organizations exist in our rural areas.

To understand why cooperatives have not succeeded in reducing poverty we must understand a bit of history. Cooperation has existed in our country from time immemorial. But the cooperative movement organized by the British, and ruled by a Registrar, was alien to our culture and to our genius. With Independence, the cooperative, along with the *panchayat* and the village school, was seen as a pillar of development. But, while political power had been transferred, the approach to cooperation remained the same. We forgot the words of Gandhiji who said: "Cooperation which is rooted in the soil, always succeeds." What we promoted were cooperatives rooted in the infertile soil of government departments of cooperation, created simply as an extension of the bureaucracy, a soil in which they might exist, but where they would never flourish. We ignored the lessons of cooperative pioneers such as P.L.N. Raju and Kashinath Rao Mukpalkar, men who built cooperatives from the bottom up, empowering the farmer, not the bureaucrat.

These and other pioneers of the Indian cooperative movement, men of great vision, saw that cooperatives could transform our rural areas, empowering our farmers and allowing them to direct their own destinies. They were convinced that cooperatives would strengthen democracy at the grass roots as our rural people learned to wisely use the power of one man with one vote. They believed that economic justice would be advanced by the lessons of cooperation where rich and poor, Hindu and Muslim, Brahmin and Harijan unite for the common good.

Increasingly these dreams have been dashed against the rocks of politics, bureaucracy and disregard for the fundamental principles of cooperation. Cooperation, a people's movement, has been officialized, bureaucratized, politicized and neutralized. It is not necessarily wrong for a political leader to serve as a cooperative leader; what is wrong is when such leaders put political interests above the principles and purposes of cooperation. Only if cooperative leaders behave with decency, honesty and integrity can cooperation succeed as a powerful instrument of constructive change in our villages. As Mahatma Gandhi once said, "The cooperative movement will be a blessing to India only to the extent that it

is a moral movement". While we can be encouraged by the example of Andhra Pradesh -- which I understand is in the process of revising cooperative law to return cooperatives to their members -- its example is but a small glimmer of hope on an otherwise dismal horizon.

Those of you who leave the Andhra; Pradesh Agricultural University today will soon be in the front lines in the war against rural poverty. Your struggle will be a peaceful one, but one of great importance to the future of our nation. Some of you will be involved in the research and development of technologies that increase productivity; others will extend to the farmers of this state the information and inputs they need to exploit that research. Some of you will become involved with the procurement and marketing of agricultural commodities. A few of you, after some years, will be responsible for the policies and strategies of agricultural development in Andhra Pradesh and the nation.

The task you face is a difficult one. The pace of change is slow and there will be many obstacles and failures. You will discover that not all welcome progress; there are those who will oppose you. You will need courage, the courage to be patient and to recognize that your work is not that of a day or a year, but of a lifetime. You will need the courage to recognize a problem or a failure as the opportunity to learn. You will need the courage to continue to be a student and the humility to recognize the unlettered villager as the wisest of teachers.

I hope that there will be those among you who will be inspired by the cooperative movement as I have been, who will share the vision of those of us who believe that if we are to eliminate poverty it must be -- can only be -- through cooperation. There is, after all, no greater responsibility, no greater challenge, than to be the employee of our nation's farmers. It is in this role that your education, your skills and your commitment can be harnessed to the immense strength of our rural population in the common effort to eliminate not only poverty, but to build a strong, proud and just nation.

I wish you all well.

The Maharaja Sayajirao University of Baroda

Baroda, Gujarat
May 13, 1986

Thirty-fifth Convocation Address

Distinguished Chancellor, Mr. Vice-Chancellor, Members of the Faculty of the Maharaja Sayajirao University of Baroda, new graduates of the University, ladies and gentlemen ...

When I was honoured by the request to deliver this Convocation Address, I must admit that some considerable apprehension arose to mitigate my pleasure in receiving such an honour. To speak before such a distinguished audience causes me no little trepidation. However, because I am increasingly worried about the widening gulf between our urban and rural populations -- between those who work in factories and those who work in our fields, between agriculture and industry, between our cities and our villages -- I thought I should make known to you, particularly the new graduates, something of the hopes and aspirations of our rural populations in the hope that you will develop some understanding and sympathy and may even wish to play a part in bridging this gap.

You who graduate today are now certified to be a member of our nation's educated elite; how you employ the lessons you have learned, and how you build upon the foundation of your education, and for whose benefit you use that education is of far greater importance than the diploma you will receive.

There will be at least a few in this audience who recall the early days of Independence. It was a time of great enthusiasm and confidence. You will recall that the eradication of poverty in our rural areas was our nation's foremost goal -- one we expected to achieve in a short period now that we were free of colonial oppression. Yet, even today, 40 years later, eradication of poverty remains a dream. The grim reality of poverty endures. Today nearly half of our rural population remains poor. And,

because they are poor, they lack the resources, the education, the energy and the will to escape from poverty. There are, of course, poor people in our cities. However, these are the overflow from our villages: hungry, poorly clothed, without shelter, looking for jobs that often do not exist.

Why, we must ask, has the problem of poverty proved so intractable? For nearly 40 years we have striven to eradicate poverty. Our finest minds -- economists, sociologists and other social scientists have examined poverty's every dimension. Our best scientific talent has been deployed to develop technologies to liberate our rural poor. In each of our successive Five-Year Plans we have had schemes to ameliorate rural poverty. Yet the problem remains.

I would draw your attention to a rather striking paradox. In the last two decades our agriculture has developed at a remarkable pace. As recently as the mid-1960s experts around the world informed us that, as a nation, we could never hope to feed ourselves. Ships from abroad unloaded tens of millions of tons of grain at our ports so that we might survive. Contrast that dismal scene with the fact that last year we produced a staggering 150 million tons of food grains; this year we shall equal or exceed that record, continuing on an impressive path of progress. Yet, poverty persists.

The rural poor -- those whose toil is responsible for all the cereals, the oilseeds, the cotton, jute, pulses and spices -- what have they to show for their efforts?

Is it not equally puzzling that in our cities consumer prices have increased, increases that tax that other class of underprivileged, the urban poor?

There is an unfortunate explanation for this paradox: exploitation. The tragic fact of the matter is that the major beneficiaries of our green revolution have been traders, moneylenders, merchants and middlemen. Let us, however, give them their due. It is they who have financed, procured, processed and marketed a significant portion of our nation's

agricultural production. It is no easy task to simply *move* cereals, vegetables, fruit, and oilseeds to Baroda -- not just from the distant corners of India, but even from Surat, and Jamnagar, Junagadh and Mehsana. One could even admire this achievement were it not for the fact that in the absence of control and competition, these middlemen have not only exploited the producer and consumer, they have operated with margins that have allowed for -- even encouraged -- substantial inefficiencies and waste.

No doubt some of you have asked yourself the question I will now pose: how can such a situation persist in a democratic society? Is not one of democracy's merits its capacity to redress such problems of exploitation? The answer is neither simple, no simply "yes". Decisions in a democracy are the product of conflicting demands. The nature of the system is such that a decision is a response to pressures, not a calculation based on the merits of the case. You may ask, what pressure can the rural poor exert on the issues that affect them. The answer is: little or none. Those for whom survival is the order of the day are no match for the pressures of the urban elite, the traders and the middlemen.

Let me digress for a moment to tell you something of my own experience for it offers both an illustration and, perhaps the outline of a solution. It was just at the dawn of our Independence that I found myself -- much against my will I might say -- posted to the little town of Anand which, as most of you know, is not far from where we are today. It was here that some remarkable people taught me some important lessons about this very problem of exploitation. Kaira District produces milk, far more milk during the flush season than can be consumed there, or in the surrounding areas. And so, the milk was purchased by traders and a private dairy who would send it to Bombay. The profit, needless to say, went to the dairy -- not to the farmers. Shri Tribhuvandas K. Patel and his colleagues believed that if they could cooperate, the farmers of Kaira District could strengthen their position. As you know, they were proved right. But, it was not without a struggle and not without learning that such efforts could not succeed unless the cooperative became involved not only

in trading, built in supporting production, in processing, and in the marketing of dairy products.

But the most important lesson learned was that the rural poor *could* command a major enterprises and, in so doing, earn a far greater share of the consumer's rupee. To realize this dream, the farmers' power had to be linked with the expertise of professional management. And that management had to represent the farmers' interests effectively, persistently and with unflagging integrity.

The success of our efforts in Kaira District soon led neighbouring areas of Gujarat to seek our help in organizing their dairy farmers into cooperatives. As the successes began to multiply, the then Prime Minister, Shri Lal Bahadur Shastri, decided that the same approach should be the basis of national dairy development policy. At his instance, the National Dairy Development Board was established. This led to Operation Flood.

What is Operation Flood? There are those that think it is simply a dairy development programme. It is not. Operation Flood is the organization of farmers, giving them a platform to articulate their needs, to demand a better place under the Indian sun. The beginning and the end of Operation Flood is giving power to the farmers by combining their energies and resources with the talent and commitment of professional management. Those who have called Operation Flood the "White Revolution" are quite right: it is a revolution -- not simply a technical or economic revolution but a social and political revolution that has begun creating a constituency of farmers who, served by professional managers, will exert pressures in their own interests, thereby participating effectively in our democratic process. It is no accident that the incomes of dairy farmers have increased. They are organized and they have a voice. We can also take some pride in the fact that because their organizations are managed professionally, and because they are efficient, price increases to the consumer have been moderate.

No revolution takes place without opposition. The "White Revolution" is no exception. It has been opposed by some politicians, by many bureaucrats, by middlemen merchants and traders. It has also been opposed -- sometimes vigorously -- by the advanced dairying countries and by multinational food companies. Yet this coalition of vested interests -- those who don't want the poor to emerge, who feel threatened when the poor gain access to the stage of democratic decision-making -- has failed. They have failed because of the very fact that the farmers are organized. And they have failed because the salvation of India is that in high places, in all spheres, there are people of vision, of good will and of ability. Such people have not only welcomed the poor to the arena of democratic decision-making, they have actively supported and encouraged this process.

The Government of India, beginning with Pandit Jawaharlal Nehru, has encouraged what we call the Anand Pattern of cooperative development. As I mentioned, it was Shri Lal Bahadur Shastri who was instrumental in creating the National Dairy Development Board so that the Anand Pattern could b e extended to every part of the country. It was Smt. Indira Gandhi whose encouragement and support was vital to Operation Flood and, more recently, to creating an alternative structure for vegetable and fruit marketing on the Anand Pattern. And it was Shri Morarji Desai who saw the Anand Pattern as the way to replicate the success of Operation Flood with oilseeds and edible oil. Each of these leaders placed the interest of our farmers above the narrower interests of the urban elite, the bureaucrats and those politicians who horizons were not as broad.

Whether with milk, with vegetables and fruit, or with oil, organization of farmers into cooperative enterprises is the first step towards releasing our rural population from the bonds of poverty. Once they assume command over procurement, processing and marketing -- command over the resources they have created -- the farmers ensure that their share of the consumer's rupee increases, providing them with a remunerative and reliable return on their investment. Increased and stable income creates the conditions for further investment in production

and productivity, an effort supported by the cooperatives which provide the services and inputs the farmers require. When the cooperatives achieve an influential share of the market -- as they now have in milk and dairy products -- this forces the, trade to conform, to compete with fair prices to the farmer and to the consumer. Most important, the cooperative enterprise, links farmers locally, regionally and nationally, empowering the rural poor, giving them a strong voice in our democratic process.

It has probably occurred to you that if cooperatives are a solution to rural poverty, why does poverty persist? After all, today in India we claim to have one of the world's largest cooperative movements. Some say that more than one hundred and fifty thousand cooperative organizations exist in our rural areas.

A glance at history will tell us why cooperatives have not succeeded in reducing poverty. While genuine cooperation had existed in our country from time immemorial, the cooperative movement organized by the British, and ruled by their Registrar, was alien both to our culture and our genius. In the early days after Independence, cooperatives, Panchayats and schools were seen as the three pillars of village development. Unfortunately, however, while political power had been transferred, our approach to cooperation remained the same. We forgot the words of Gandhiji who said: "Cooperation, which is rooted in the soil, always succeeds". What we promoted were cooperatives rooted in the sterile soil of Government Departments of Cooperation; cooperatives created simply as an extension of the bureaucrat. This was a barren soil in which cooperatives might exist, but where cooperation would never flourish. We ignored the lessons of cooperative pioneers such as Tribhuvandas Patel, selfless men and women who built cooperatives from the bottom up, empowering the farmer, not the bureaucrat.

Tribhuvandas Patel, and other pioneers of the Indian cooperative movement, people of great vision, saw that cooperatives could transform our rural areas by empowering our farmers and giving them control over their own destinies. These men and women were convinced that

cooperatives would strengthen democracy at the grass roots as our rural people learned to wisely use the power of one man with one vote. They believed that economic justice would be advanced by the lessons of cooperation where common efforts to achieve the common good subsume all artificial differences of caste, community and religion.

Increasingly these dreams have been dashed against the rocks of politics, bureaucracy and disregard for the fundamental principals of cooperation. Cooperation, a people's movement, has been officialized, bureaucratized, politicized and neutralized.

I do not believe that it is necessarily wrong for a political leader to serve as a cooperative leader; what is wrong is when such leaders put political interests above the principles and purpose of cooperation.

I do not believe it is necessarily wrong for a bureaucrat to temporarily serve as a director or manager of a cooperative; what is wrong is when such individuals perpetuate their positions, denying the true owners the rights and responsibilities essential to cooperation.

Only if cooperative leaders and managers behave with decency, honesty and integrity can cooperation succeed as a powerful instrument of constructive change in our villages. As Mahatma Gandhi once said, "The cooperative movement will be a blessing to India only to the extent that it is a moral movement."

Yet, in spite of all the obstacles it has faced, Operation Flood has now in its fold some four million milk producer families, who have organized themselves into 40,000 village milk producer cooperatives, federated into 150 district cooperative unions like Amul, owning their own milk processing and marketing facilities in one-third of the districts of India. Between them they collect some 10 million litres of milk a day. They obtain as payment for their milk Rs. 10 billion a year and, in the process, these farmers have had their incomes doubled. For the last 10 years India has completely stopped all commercial imports of milk products. The only import of dairy commodities hereafter will be some

15,000 tons of milk powder and 5,000 tons of butter oil for the next five years and that too as a gift delivered free in India. No wonder a great many countries of Asia, Africa and Latin America wish to have their own Operation Flood.

Are the benefits of such a project limited only to building up our own dairy industry and becoming self-reliant in regard to milk and milk products and doubling the income of vast numbers of our farmers? As I have said, Operation Flood means much more. True development is the development of man -- not of cows. The only way we can develop man is by giving him responsibility. In developing India, therefore, we cannot ignore the 75percent of our population who live in our villages. We must find the ways and means to ensure that they have the responsibility to manage their own affairs. The human machine is a wonderful machine. This is as true of farmers as of anyone else -- perhaps more true. Operation Flood is a project in which farmers are responsible for managing a large and complex business through their own elected representatives, and by employing professionals. The biggest asset of India is our people. If we can mobilize the vast energy of our people by combining it with professional management to give that energy purpose, direction and thrust, what can India not achieve?

In industry -- despite the criticisms we may make of many aspects of business and of the many obstacles faced, the fact remains that India is today the tenth or the fifteenth largest industrial power in the world. How did this become possible? Forty years ago, when we became independent, we could not manufacture a safety pin. Today there is nothing that we can not manufacture. It became possible because people like Tata, Birla; and Gujarat's own Ambalal Sarabhai and Kasturbhai Lalbhai combined their business acumen, their money and their patriotism with professional management and made India what it is today industrially. What can India not achieve if we learn to combine the vast power of our rural population -- 600 million Indians -- with professional management and create institutional structures that give them the responsibility to manage their own affairs? Will they also not grow?

I am one of those who believe that the good people of India are our farmers. They live close to nature. They till our lands, they work in our fields to produce the food and fibre we need. They want only to live and let live. All the bad people from the villages, all the ambitious ones, these people have already gone to Bombay and Ahmedabad; in search of money -- or to our capital cities in search of power. Only the good people are now left in our villages and if India is to prosper we should involve these good people in the processes of development, place in their hands the instruments of development and underpin the democratic structure at Delhi with strong democratic institutions right down to the village level. These are some of the larger implications of Operation Flood.

May I express the hope that distinguished universities such as this -- and the students that graduate from them -- will take a more active, sympathetic and supportive interest in the efforts of our farmers to better their lot.

Gandhiji talked about rural development as a service to the poorest. I hope you too, in your own way, serve the cause of Gandhiji's *Antyodaya* -- "The last, the least, the lowest and the lost."

I wish you well.

Indian Farmers' Fertilizer Cooperative

The Third Jawaharlal Nehru Memorial IFFCO Lecture on Cooperation

New Delhi
September 3, 1986

Mr. Chairman, cooperators, ladies and gentlemen ...

I must begin by expressing my sincere thanks to IFFCO for having honoured me by your invitation to deliver the Third Jawaharlal Nehru Memorial Lecture on Cooperation. It was Jawaharlal Nehru who provided the inspiration for development of the cooperative movement and, may I say, gave us in Kaira District considerable encouragement in the early days of our efforts. The pleasure I feel in delivering a lecture that honours our late Prime Minister is all the more keen in that today you also honour Shri Tribhuvandas Patel, a cooperator and a man for whom I have the most profound respect. He is my Guru.

Let me digress for a moment to tell you how I became involved in this field called cooperation. I was, after all, trained to be an engineer. After my return from post-graduate studies in the United States, and much to my dismay, I was posted to a little town called Anand. It was, I felt at the time, akin to the fate of a bonded labourer and my only consolation was that the term was not too long. It was there in Anand that I got mixed up with some Gandhians, including Shri Tribhuvandas Patel. It was he who became my guru and moulded me into a useful instrument as an employee of the farmers of Kaira District. This was the best thing that has ever happened to me. Rather than wasting my days as one of our urban elite, I have lived a life of great personal satisfaction and happiness, serving the farmers who employ me. Guided by Tribhuvandas Patel, I learned to respect and to place faith in the farmer, a faith that has been repaid many fold. Some have found it strange that a man from Kerala, a Christian, a product of our educated elite, could come to be accepted in the villages of Kaira district. This speaks first and foremost to the respect in which Tribhuvandas Patel is held, a respect for his essential goodness,

his commitment to cooperation and to the Gandhian way of life, a way of life that reverberates in the basic morality, decency and honesty or rural India. Tribhuvandas Patel represents the ideal of cooperation and what cooperation can achieve for India. His selection as IFFCO's "Cooperator of the Year" is an honour well-deserved and long overdue.

As much as I was pleased to accept an invitation that honours both Jawaharlal Nehru and Tribhuvandas Patel, my pleasure was tinged with some apprehension. It has always been my way to speak frankly on the subject of cooperation and my views have not always found favour with our cooperative establishment. Some have even suggested that "Kurien is no cooperator". I asked myself was this an invitation to the fox to enter the hen house; or was I the lamb being invited to sup in the lion's den. This caused me to ponder the subject of this talk. Should I deliver an academic discourse on the successes of the world's largest cooperative movement? Or, perhaps, focus on its shortcomings? It occurred to me, however, that the people gathered in this room represent not only the leadership of the cooperative movement, but also senior political leaders and officers of our government, the people whose hands can shape the future of our cooperative movement, for better or for worse. I thought, then, that I ought speak from the heart.

It was 25 years ago that Jawaharlal Nehru delivered a much quoted -- but perhaps less read -- talk on "Cooperation and the Mind of the Villager". It was in this talk that he said, "My outlook is to convulse India with the cooperative Movement ..." Much of what he said in that brief talk is relevant to us today as we look at the role of cooperatives in our nation's leap forward to the 21st Century.

We Indians today have much to be proud of. In the short span of our Independence we have created an industrial infrastructure that can build nuclear power plants and satellites when only 40 years ago we could not make a simple safety pin. There is no doubt in my mind that we shall soon stand with pride and dignity amongst the world's most powerful nations. What concerns me, however, is that, once powerful, we should exercise that power with wisdom and for good. Many nations have

achieved power; far fewer have employed it wisely. And, while our nation has made great progress, that progress is uneven. We sit today in a most magnificent hall, the abode of science. How many of our village schools have even a rudimentary laboratory to teach our children the ways in which science can benefit mankind? Delhi and other major cities have beautiful roads with soaring fly-overs; how many of our villages have an all-weather road to link our farmers with their markets? Here in Delhi are medical facilities to compare with the best in the world. How many of our villages have a 25 paise drop of medicine to protect the eyes of a newborn child from blindness? Delhi has magnificent fountains that spray water in front of coloured lights at night. How many of our villagers have a clean water supply, much less electricity in their homes? We rightfully take pride in our own nuclear power plants. But our farmers produce the daily necessities of our lives using tools and technology that are centuries old.

Lest I be misunderstood, we have done much to improve life for the 75 percent of our population that live in rural areas; but their progress has not matched that of our cities. Their productivity, though it has increased greatly, lags well behind that of their urban brethren. And, most important, their wisdom, their courage, their great energy lies largely untapped as we race ahead towards the next century.

Twenty-five years ago Jawaharlal Nehru addressed this very point. He said, "I do not accept the statement often made that the Indian peasant is so frightfully conservative that you cannot make him come out of [his] rut. He is a very intelligent person -- given the chance -- only a little cautious, only wanting some proof, some evidence of what he is asked to do ... and not taking too much for granted. Now that makes Cooperation in India for the rural people absolutely essential." He went on to say, "Our whole mental approach was for a constitution and a living structure of society to be built on this approach and these principles of Cooperation .... Therefore the whole future of India really depends on the success of this approach of ours."

Last year, in an interview with CERES, an FAO review, our present Prime Minister said, "The agrarian economy has made a particularly

impressive advance wherever local institutions are fully developed. Cooperatives, particularly in the field of milk, sugar and oilseeds, are examples of what the 'uneducated and low-skilled' Indian farmer can achieve."

What we must ask ourselves today is whether we have listened to the wisdom of Jawaharlal Nehru. Have we built the local institutions that unleash the energies, intelligence and productivity of our rural population? The answer, I fear, is that we have done a little; far too little.

Jawaharlal Nehru had a vision of cooperation: he was not interested in numbers but rather cooperatives as a vehicle to change the ways in which our rural people think. He didn't want hundreds of thousands of cooperatives in India so that we might boast of having the world's largest cooperative movement: he wanted to "make the cooperative approach the common thinking of India."

In his talk 25 years ago, Jawaharlal Nehru also pointed to the problems that might block the realization of his vision. He said, "That is why we do not want, as in the past, the district official, or any other official, to throw his weight about too much. Again, he is the adviser and friend, but not the boss." He continued, "... we wanted to draw the mind of the people out of the old conception of some big officials sitting on top and ordering about people to do things ...." He had faith in our rural people and remarked, "... theirs will be the decision and if they make mistakes, they will suffer for them, and learn from them."

What, we might ask, would Jawaharlal Nehru say today if he read our cooperative act? What would be his reaction to treating cooperative elections as an extension of national and state politics? Would he be pleased with registrars intervening in every aspect of a cooperative's activities, with government officers serving as managers and even as the managing committees of cooperatives? Would he not say, as I say to you, the time has come to return our cooperative movement to its members?

Cooperation in India is as old as our very civilization. Without cooperation the village could not survive. Our colonial masters introduced only the formal structures of cooperation. But in promoting cooperatives they lacked faith in our people, and so they created the Registrar: the friend, philosopher and guide -- to ensure that no one ran off with the cash. Thus the Registrar became god. With Independence, our civil servants found that being god was enjoyable. And our political leaders discovered that being the boss of god was even more pleasurable. As we attempted to encourage our cooperative movement with money and support, we increased government control over the movement. With every benevolent gesture, we struck down the very principles that are the heart of cooperation: democratic decision making; voluntary membership; neutrality in race, religion and politics. It is no surprise, then -- though no less disheartening -- to see an advertisement for a cooperative federation that says, "a Government of Rajasthan enterprise."

Our leaders in the Independence Movement, Gandhi, Nehru, Sardar Patel, saw that freedom struggle in terms of freeing our people not from the oppression of the British, but from the oppression of foreign values. The cooperative system, as organized by the British and ruled by a Registrar, was based on foreign values. It was, and is, alien to our culture and genius.

It has been with sorrow and distress that those of us who hoped to see cooperatives bloom after Independence have seen that while political power has been transferred, the approach to cooperation has remained the same. Scant heed has been paid to Gandhi's words: "Cooperation, which is rooted in the soil, always succeeds." Regrettably, our departments of cooperation have more often seen it as their duty to uproot cooperatives that have sprung from our native soil and have sought to spread cooperatives as vehicles of policy, firmly rooted in the bureaucracy, a soil in which they may exist, but where they will never flourish.

What might have happened had we remained constant in the vision of Gandhi, of Nehru and, I might add, Tribhuvandas Patel? What would

have been the result if we had unleashed our cooperatives, had we placed our faith in our farmers, had we linked their power with professional management? I have no doubt that we would have transformed our rural areas, empowering our farmers, allowing them to direct their own destinies. Our democracy would have been strengthened at the grass roots as our rural people learned to use wisely the power and responsibility of one man with one vote. Economic justice would have been achieved in far greater measure if exploitation by money lenders, traders and vested interests was curbed by cooperation. Social justice, too, would have been advanced by the lessons of cooperation where rich and poor, Hindu and Muslim, Brahmin and Harijan unite for the common good.

While some of this potential has been realized, it is too little. Our dreams too often have been dashed on the shoals of politics, bureaucracy and disregard for the fundamental principles of cooperation. What should have been a people's movement has been officialized, bureaucratized and politicized. It is not necessarily wrong that a political person serves as a cooperative leader; it is wrong when political purposes are advanced at the expense of the principles and purposes of cooperation. It is not necessarily wrong when a government officer serves a cooperative; what is wrong is when there is no accountability to the members, or where the members' desire for responsibility is blocked. Men become responsible when responsibility is given, not when it is withheld.

It is by no means too late to rebuild our cooperative movement. Those in this room can play the major role in restoring the environment where cooperatives can achieve the vision Jawaharlal Nehru placed before the nation twenty-five years ago. You -- men and women of ability, good will, and belief in the principles of cooperation -- you can open the door to the cooperative commonwealth that was Jawaharlal Nehru's dream.

The first and most important step is to frame and enact new cooperative laws, in the states and at the centre. Such laws should embody the principles of cooperation -- not their negation. They should incorporate the principle that that government governs best which

governs least. They must place full responsibility with the members of cooperatives, for to deny responsibility is to deny our people the opportunity to learn to be responsible. As Jawaharlal Nehru said, they will make mistakes and they will suffer from those mistakes. But they will *learn* from them. We must, in our new cooperative laws, redefine the responsibilities of the Registrar. Regulation, protection of the interests of the members, is the legitimate role of Government; management of cooperatives is not. Cooperatives must be given the freedom to manage their own affairs, without the interference of Government in every decision. We must seek, through legislation, to protect the cooperative from narrow political interests, thereby encouraging the broader national interest. A new cooperative law must define a true cooperative: we must end the farce of so-called cooperatives and federations that operate as businesses often in competition with their constituents and even with their members. Can we call an enterprise that purchases from the private trade a cooperative when the primary member has been exploited by that trade? We must, in our new laws, recognize the roles, responsibilities and accountability of the professional manager, for a cooperative that fails as an enterprise will fail as a vehicle of service to its members. Our new law must not just allow, but must require our cooperatives, unions and federations to freely elect their own leaders. A cooperative with an appointed chairman and board is no cooperative at all. What we should create is a model cooperative law, not only for India, but a model for cooperative movements everywhere. A cooperative law that embodies each cooperative principle and which enables cooperatives to flourish; a cooperative law based not on alien values, but one that reflects our unique national genius.

The second step we must take is to encourage cooperative enterprise through policies, law and regulation. Should we tax cooperatives at the same rate as a corporate enterprise? Our dairy, oilseed and other cooperatives manage major developmental efforts. Taxation simply retards their capital formation, requiring government to give, through share contribution, what it takes away as taxes. Licensing policies should weigh the contribution of cooperatives to their members. Priority should be given to cooperatives engaged in processing of

agricultural products purchased from their members. Similarly, such cooperatives should receive priority in provision of water, power and rail connection: they serve the farmer, not a handful of corporate share holders. Their benefits enrich the rural area, not drain it of resources. Cooperatives should have priority access to finance: such controls as are designed to inhibit speculation in commodities should clearly not be applied to cooperatives that seek to benefit both producers and consumers. Last, but certainly not least, prices of agricultural commodities should be an incentive to the producer: stable and remunerative. If producers are confident that they will receive a fair price, they will invest in improved productivity. Cooperatives can only pay such a price if they can do so profitably. Large scale imports of commodities can only depress local prices, creating a disincentive for our own producers. We must not tax our producers in order to please the urban consumer for, if we do so, it is only at the cost of diminished productivity and higher prices in the long term.

The third step is as difficult to realize as it is simple: we must place faith in our farmers. Those of us in this room are, by and large, products of our educated elite. We have all the advantages of superior education and training. We hold positions of authority and responsibility. Let us rediscover the truth that the unlettered villager is often the wisest of teachers and that, without our guidance and direction, the villager survives and even thrives in conditions we could not face. Every day the village farmer confronts challenges and responsibilities far greater than ours. Why then should we not place our faith in him and let him be responsible for his own destiny? I have been an employee of farmers for close to forty years. I can assure you that faith in our farmers will not prove misplaced.

The fourth and last step we should take is to restore the purity and integrity of our cooperative movement. The cooperative can be a powerful force for constructive change in our villages, but only if its leaders behave with decency, honesty and integrity. As Mahatma Gandhi once wrote, "The cooperative movement will be a blessing to India only to the extent that it is a moral movement." Each of us, whether a

cooperative leader, an employee , or an official, has a sacred trust to ensure that our cooperative movement is a moral movement. We must relentlessly and courageously expose those who seek to exploit the movement for personal gain.

Today, 25 years after Jawaharlal Nehru presented his vision of an India convulsed by cooperation, we do have achievements to be proud of. We have cooperatives that will stand comparison with any in the world. Yet, we have fallen far short of Jawaharlal Nehru's vision: our cooperatives have not changed the outlook of our rural poor. They have not enabled our farmers to seize control of their destiny and thus contribute to the grander destiny of our nation. But the potential is there. We have leaders and officials of vision, ability and good will who can join hands to create the laws and policies that will unleash our cooperative movement. We have men and women of integrity who can protect and nurture a moral cooperative movement. Most important, we have millions of our countrymen and women who have the courage, wisdom and energy to transform our nation, if only we give them that chance. Let me close then by asking each of you to join together, to cooperate, in a great effort to convulse our India with cooperation, to build a nation where our rural and urban people stride, hand in hand, together into the 21st Century.

Thank you.

Presentation of the Wateler Peace Prize

The Hague, The Netherlands
October 1, 1986

Acceptance Speech

Your Royal Highness, Chairman and Members of the Board of the Carnegie Foundation, Your Excellencies, Ladies and Gentlemen,

It is a great honour and a proud privilege for me to be a recipient of the Wateler Peace Prize. The honour this Award confers on me and my work is further enhanced by the fact that His Royal Highness Prince Claus himself has been gracious enough to present this Award to me. All of us at Anand remember with great happiness the visit Her Majesty The Queen and Prince Claus paid to our cooperative.

This Award is being conferred at a time when the world's dairy leaders are gathered at The Hague to participate in the International Dairy Congress, which is held once in four years. I am, therefore, delighted to see amongst you so many distinguished dairymen from around the world.

This great honour is being conferred upon me for the achievements of India's famous dairy project, Operation Flood. The project already covers 4.1 million farming families at the milk production end, linking them through modern processing and distribution plants not only to be four metropolitan cities of India, but also to 200 other towns with a total population of 150 million people spread throughout our country. This is why it is called the largest agricultural development project in the world.

Seventy-five per cent of our population is engaged in agriculture. Most of these women and men are small and marginal farmers; many are landless labourers who work on other people's land. They produce milk by feeding their animals on the by-products of agriculture. Even landless labourers keep one of two buffaloes or cows and feed them on the crop residues and fodder they are permitted to collect from the edge of the

field where they work, and from roadsides. In fact, with the growing pressure of our human population, we must develop dairying in such a manner as to avoid competition between man and beast, whether for land or its produce.

The pattern we have favoured for dairy development in India under Operation Flood has been the cooperative pattern -- the pattern followed by most advanced dairying countries of the world. The major difference, however, is that in our country a single dairy plant is often supplied milk by a quarter of a million farmers, each owning one or two buffaloes or cows. Thus, in every village we have a milk cooperative society managed by elected representatives of the milk producer members. In a district which has, say, 1,000 villages, these village cooperative societies are federated into a district cooperative union which owns and operates a dairy plant. Each district union is managed by a board of directors elected from amongst the chairmen of the village societies. We have a third level which is at the state level, where chairmen of district unions elect the board of directors of the state cooperative federation. Recently we have established, at the national level, the National Cooperative Dairy Federation of India of which I have been elected the chairman.

Under Operation Flood, 4.1 million farmers have today organized themselves into 41,000 village milk cooperative societies, which are federated into 152 district milk cooperative unions owning dairy plants, cattle feed plants, chilling plants, etc. These again are federated into 22 State federations in as many states of India. Under the Third Phase of Operation Flood, now started, it is proposed to increase this farmer membership to 10 million.

The benefits of the project have been clearly demonstrated. The cooperative dairies collected, last December, about 10 million litres of milk per day. Income to farmers has doubled. The equivalent of nearly 2,000 million Guilders are now paid by our milk cooperatives each year to the farmers for the milk they produce. The per capita consumption of milk in India has risen from 107 grams per head in 1970 to 144 grams per head in 1985. Milk and milk products -- which were rationed commodities in our

cities and towns -- are now freely available, though not yet at a price that the poor can afford. The only import into India is the milk powder and butter oil donated to us for Operation Flood by the European Economic Community. These donations have also now declined to 25,000 metric tons of milk powder and 5,000 metric tons of fat annually.

But are these the only benefits of a project as vast as this? If you were to be in one of our 40,000 village cooperative societies this evening, you would see some hundreds of farmers and their wives standing in a line at the village society to deliver their milk. They do this twice a day, every day of the year. They have learned to stand in a line irrespective of sex, irrespective of caste. What does it do for a so-called “untouchable”, who is a member of the milk society, to stand ahead of the high-caste Brahmin because he came earlier, and to do so twice a day every day of the year? What does it do to a high-caste Brahmin to stand behind an “untouchable” because he came after him? And what does it do to both of them to see their milk going into the same can and to see the caste system getting submerged in the milk? Is this only orderly milk collection? Is this not a blow at the caste system?

Our villages are dirty. Our milk collection centres are not all that clean, but they are cleaner than the rest of the village. Someone has sprinkled water around the centre to try to keep the dust down. Someone has sprayed an insecticide to try to keep the flies away. Someone has used sanitizers to wash the cans and measures. Someone has laid glazed tiles to try to keep the place clean. These may well be the first few steps in rural sanitation in that village.

The privilege of collecting the farmers' milk places an obligation on the cooperatives to provide inputs to increase milk production. The district cooperative unions, therefore, not only have a dairy plant but also operate an elaborate veterinary service employing as many as 50 veterinarians in a district. A first-aid worker is employed in each village to take care of the health of the cattle. They are all employees of the cooperative and not of government. When a buffalo is sick, a cooperative -- such as the one in Anand -- guarantees that a veterinarian will call on

the sick animal in the village within four hours of being sent for. We have a radio telephone communication system to ensure this. When a buffalo is pregnant and nearing her calving period, she may suffer from dystokia when the uterus is twisted and the calf cannot be born. Everyone in the village knows that this has happened for generations and the owner will lose both the buffalo and the calf. Now they send for a vet -- he lies behind the animal, untwists the neck of the uterus and delivers the calf safely. What does this display of modern medicine in a village do to the thinking of village people? Do they not say that when their son was sick, they tried to get a doctor but could not get one for four days and their son died? Do they not demand of their cooperative that there should be some provision for human health care?

We have a scheme under which we invite the farmers' wives, who are the ones who take care of the milch animals, to visit the central dairy plant as guests of the district union. What does it do to the simple village people when they enter the compound of a modern dairy plant, see the lush green lawns, the magnificent buildings, the gleaming stainless steel within, and to realize that they own a bit of it, that they have some say in the running of it and above all they have a share in its profits? When they go home that evening, do not they walk a little more proudly?

We take them to their cattle feed mill where concentrate feed is manufactured. They are told about its working and a nutritionist explains that the feed concentrate contains 18 per cent protein. Do we not have to explain what is protein? Why the feed contains vitamins and minerals? Why a female buffalo should be fed even though she is dry, because she is pregnant and her foetus is growing which also needs nutrition? Can she not relate this to her own growing foetus? Are we discussing with her only animal nutrition? Are we not educating her on human nutrition also?

We take them to the artificial insemination centre. They only ask that there should be no male member from their village present. We show them how the semen is collected from a bull. We explain to them the mysteries of conception and birth. What is a sperm. What is an ova. We have the village women look through a microscope at the live semen of

the bull. Do they then not ask if this is what happens in human reproduction?

Are we not leading them on to birth control?

What then is a dairy cooperative in India? What then are the true dimensions of Operation Flood? Is it not really the creation of instruments of social and economic change at the village level, instruments owned and directed by the rural people themselves? Is it not involving these rural people in the processes of development, exposing them to modernity, drawing them into the twenty-first century? Is it not the creation of an institutional structure that recognizes that true development is not the development of the cow, but the development of man? True development involves the creation of an institutional structure through which the poor and weak can give expression to their desires, make known their wants and demand for themselves a rightful place under the Indian sun. Is not our project a recognition that the biggest asset of India is its people, and if the power of our people can be unleashed and combined with professional management, which people like me represent, then can not this power assumes direction and thrust and makes all things possible?

Forty years ago, India could not manufacture even a safety pin. India today is counted amongst the dozen or so most powerful industrial nations of the world. What will India be in another 30 years? Is she not bound to fly her flag amongst the most powerful nations of this Earth? But is it altogether a good thing for India -- or any other country -- to be all that powerful? Isn't it important to ensure that before India becomes powerful, the power of India is not concentrated in too few hands? That those who wield the power of India should be truly answerable to the people of India, particularly the good people of India -- the 75 pr cent of our people, who live in villages, who live close to nature, who till our land and who want nothing but to live and let live? Isn't it important to ensure that our democratic, secular form of Government in Delhi is under-pinned with democratic structures like cooperatives right down to the village level in order to give meaning to democracy? Should not our people learn the value of their vote and understand the sound principles of democracy --

one man one vote -- and learn to exercise that vote freely, irrespective of sex or religion or region or language? Only then can we ensure that the power of the India of tomorrow is used not only for the good of India but also to ensure that India will hold aloft alongside her own flag, the flag of all just causes, of all oppressed peoples.

It is but natural that such projects which seek to empower the poor, that will help topple the existing exploitative power structure in our villages, that progressively dismantle the bureaucratic governmental structures that run our dairies -- that such a project should attract serious opposition from many sides within India and abroad. The conferring of this prestigious award provides us with a measure of the additional strength we need to overcome the obstacles placed in the path of our project. We are indeed fortunate that the Government of India at the highest levels has always been fully supportive of our efforts -- though perhaps the same cannot be said of some in the lower levels of government, whom we seek to replace in the field of dairying.

I am aware that this award is not so much a recognition of any personal contribution I may have made, as it is a recognition of the contribution and in fact the sacrifice, in a few cases, of their very lives, made by those working in the organizations I have the honour to head. It is also an honour for which we should be grateful to all those who have made Operation Flood possible - - the World Food Programme of the United Nations, the FAO, the European Development Programme, and friendly countries like the United Kingdom, the United States, Switzerland, Denmark, Sweden, and last, but not least, The Netherlands.

I understand that only the other day our two governments have resolved that the development of dairy cooperatives in India will be further assisted by the well-developed dairy cooperatives of The Netherlands, and that the Government of India will facilitate the transfer of technology on a cooperative-to-cooperative basis between our two countries. Progressively we hope we hope such trade will replace aid.

I received the other day a note of congratulations from some friends which said "For a man, who has always been at war -- congratulations for the Peace Prize". Peace is not absence of war. Peace is not inaction. Peace can exist only if differences amongst men on the basis of caste, creed, colour and religion are abolished. All these will not get abolished without waging war against oppression, exploitation, racial arrogance, and economic inequalities within countries and amongst countries. Operation Flood not only wages war against the evils of exploitation, poverty and ignorance in my country, but also transfers to us resources from the richer countries in the world.

To recognize in our work and in Operation Flood our struggle to achieve, against tremendous odds, these dimensions of true development and to perceive it as a project which will promote the cause of peace, the Carnegie Foundation has shown a rare sensitivity and a surprising breadth of vision. For this gesture of encouragement to us in our difficult task, I am truly grateful.

Nutrition Society of India

Hyderabad, Andhra; Pradesh
November 27, 1986

Tenth Gopalan Oration

Oils and Fats: beyond Nutrition

Dr. Gopalan, Mr. President, distinguished members and guests...

It is indeed a privilege for me to be with you and to honour, through this talk, the distinguished achievements of Dr. C. Gopalan. Dr. Gopalan's eminence as a scientist, his contributions to the field of nutrition, his pioneering work on Kwashiorkor, are all a matter of pride to his fellow countrymen. It is indeed fitting that the Nutrition Society of India has sponsored this oration as a tribute to Dr. Gopalan and his many contributions. I am pleased and honoured to participate in such a tribute.

At the outset, however, I must admit that I found your invitation somewhat unusual. My involvement with nutrition has been on the production side and, as an engineer and manager, my contribution to your science has not been such as to draw much attention. It is, therefore, with some humility and apprehension that I have summoned up the courage to address you on a field where your expertise is as substantial as mine is limited. I trust, then, that you will excuse any errors I may make in discussing your science and will allow me to concentrate on those aspects of the subject that I know best.

I have been asked to speak to you about "oils and fats" and, more specifically, about enhancing the availability of edible fats in India. In a way I suppose one could say that my life's work has been involved with enhancing the availability of edible fats, so I hope that you will allow me to speak a bit about that work. It is possible that therein may lie a few points which would prove pertinent to the topic.

It was more than 35 years ago that I returned to India after completing post-graduate studies in the United States, only to find myself posted to a little town named Anand in Gujarat. By chance I got involved with a group of Gandhians -- people like Shri Morarji Desai and Shri Tribhuvandas Patel. Sardar Vallabhbhai Patel had presented to them the curious idea that, by forming cooperatives, the farmers of Kaira District could obtain a better price for their milk and, that if they received a better price, they would be more inclined to spend a little bit more on their buffaloes for feed and veterinary care. It was their belief that the buffalo would respond to that feed and attention and would produce just that much more milk.

As I had a lot of time to spare, being a government scientist and a bachelor in Anand, I helped Shri Tribhuvandas Patel with his cooperative union and offered a bit of advice on things like equipment. Then, as I was about to leave Anand for better things, he came to me and pointed out that I had recommended that the union buy an expensive piece of equipment and, just when it was about to arrive, here I was ready to leave the town. He made me the offer of a princely sum to stay for a month or so to see that the setting up of the equipment was done right. The month turned to months, and then to years. The diversions of an under-employed engineer became the avocation of a lifetime. The little union of two cooperatives and a handful of members has, over the years, become one of the largest and most successful dairy cooperatives not only in India, but in the world. I believe all of you have heard the name "Amul".

And, Shri Tribhuvandas Patel was right: a stable and remunerative market did lead Kaira's farmers to invest more in their buffaloes, and to produce more. Just in the last ten years, between 1974-75 and 1984-85, the average milk collection by the Kaira District Cooperative Milk Producers' Union has increased from 359,000 to 529,000 litres per day. That translates into an enhanced availability of edible fat equivalent to some 4,000 tons per year.

Even then, in our country where we must divide every increase in output by 750 million, Anand’s achievements are not -- cannot be -- an

end in themselves. Fortunately they have not been. Some years ago, when the late Shri Lal Bahadur Shastri was our Prime Minister, he had occasion to visit Anand. At that time our nation's milk situation was very bad. In an effort to increase milk production, we had tried cattle colonies and intensive cattle development programmes. Unfortunately, while each increased investment produced an increase in the number of government employees, it seemed to also cause a drop in per capita milk consumption. Prime Minister Shastri had decided he would find out for himself why, in the midst of such dismal failures, Anand seemed to have been a success. So, he went to a village in Kaira District and spent the night there. He talked to farmers until the early morning hours. In the end, he recognized that Anand worked because it was owned and controlled by the farmers themselves and that the farmers were joined in a uniquely successful partnership with the professional managers whom they employed. It was as a result of this visit that the Government of India decided to create "Anands" throughout India, a decision that led to the establishment of the National Dairy Development Board and Operation Flood.

Milk and milk products are one of our most important sources of nutritional fat. What has been the contribution of Operation Flood to the availability of milk-based fat? In 1969-70, we were producing less than 21 million metric tons of milk, only 19 percent more than we had in 1951! Per capita milk consumption had dropped to 107 grams per day: in that year the average Indian consumed only 6 to 6.5 grams of fat daily from milk and its products, a mere 2.3 kilograms per year. By 1984-85, our national milk production had increased to 38.7 million metric tons, 122 percent higher than the 1951 base year. Daily per capita consumption had increased to 144 grams. Our average fellow countryman is now consuming 8.5 grams of milk-based fats daily, or some 3.1 kilograms each year. While Operation Flood has not been the sole contributor to our increased national milk supply, I believe we can take some credit and pride in the increase of more than 1 million metric tons of edible fats attributable to this rise in milk production. I think you will agree that this achievement is even more significant when you realize that the price of milk and milk products has increased only 175percent since 1970-71 when compared with 250percent for fruits and vegetables, 345percent for fish,

eggs and meats, 370percent for pulses and 260percent for all commodities. It is also significant that the cooperative dairy structure in India returns as much as 70 percent of the consumers' rupee to the producer, a figure I challenge others to meet. It is never possible to reduce prices for the consumer while increasing them to the producer; in this instance, we have come as close as is realistic. Price increases for the consumer have been moderate while the producer has received an increasing incentive to improve his or her productivity.

While all this is happening in milk -- there have been no commercial imports of dairy commodities for over a decade -- we are paying a mounting foreign exchange bill for vegetable oils. Ours has been a rapid and distressing decline from being an exporter of edible oils to becoming one of the world's major importers.

In 1977, the success of Operation Flood and the Anand Pattern led the Government of India to request NDDB to undertake a project to restructure the production and marketing of edible oil and oilseeds. The project was launched in 1979. You will appreciate that there is a close interrelationship between the dairy and oilseed sectors. First, the price of the fat component of milk is very important to the market price of milk. If the price of *ghee* rises, so does the cost of milk at the farm gate. The price of milk fat is closely linked with that of vegetable oils, both as such and in the form of *vanaspati* which, after all, is simply ersatz *ghee*. The relationship does not end there: anywhere from 50 to 80 percent of an oilseed is predominantly protein. Thus, the price of oilseed extractions -- in the form of feed -- is of critical importance to the economics of the dairy farmer. You can readily understand, therefore, why NDDB agreed to undertake a project in this field.

We have been quite pleased with the response to this project. More than 300,000 farmers have joined 2,500 oilseed growers' cooperatives in seven states. The project now covers an area exceeding 800,000 hectares. The cooperatives are organized into unions and state federations which are responsible for project implementation from production, procurement, processing and marketing to provision of inputs

and services for improved yield. During 1984-85, the federations procured more than 200,000 tons of oilseeds from members; this year we expect at least a 50 percent increase. The studies we have done provide evidence that oilseed growers' cooperative members receive a better return for their produce; that they invest more in seed, fertilizers and plant protection; and that they obtain higher yields than non-members. We are confident that, in time, this project will make a contribution to the availability of vegetable oils comparable to Operation Flood's contribution to the supply of milk-based fats.

At the outset of my talk I asked you to bear with me while I spoke a bit about my personal experience and suggested that it might offer some lessons that would apply to the problem of increasing the availability of oils and fats in our country. I would hope you might agree that the achievements of Operation Flood and of NDDB's project to Restructure Edible Oil and Oilseed Production and Marketing have contributed to an increased supply of oils and fats. What I would now suggest is that it is important to understand *why* these projects have worked. In this, I would return to the reasons for Amul’s success: 1) good fortune -- not the least being in correct proximity to a good market; 2) good decisions -- particularly with regard to the employment of technology; 3) dedicated professionals; and 4) committed producers.

Markets

No Bombay -- No Anand! While that is true, the converse isn't. You can have a Bombay, but not have an Anand. The existence of a market doesn't guarantee a supply. The grave shortages of food, clothing and housing in our country and other parts of the world is sad evidence of this fact.

People, by themselves, do not constitute a market. They must have the wherewithal to consume. In a country such as ours the national prosperity depends on our agricultural producers. That is, if we are talking about national prosperity and not simply the prosperity of our elite. We cannot and must not mistake the availability of cars, electronics,

appliances and other gadgetry with national prosperity. If we do, we run the risk of building a top-heavy structure without a firm foundation.

Too often in the past, given the choice between a low price for the urban consumer and a reasonable return for the rural producer, we have opted for the former. This is the result of a democratic system where there are competing pulls and pressures. At the same time, when the rural producer subsidizes the urban consumer in the short-run, the consumer will pay through higher prices over the long haul.

We have markets. What we must ensure is that those markets operate with a fair degree of freedom so as to ensure that there is a reliable and remunerative return to our producers.

Markets can be distorted in a number of ways. One such distortion occurs when, for a variety of reasons, consumer prices are controlled. Now, if I can only sell milk in Hyderabad for Rs. 2.50, and if I have squeezed the last drop of efficiency out of my transport, processing, handling and distribution system, then I can only pay the farmer the difference. If the farmer can't meet her costs with that payment, she will invest less. Production will drop. Total supply will decline. And, ultimately, either prices will rise very sharply or the government will have to pay a very heavy subsidy to make goods available to the consumer. Is it not better, then, that we encourage the farmer to invest in increased production and productivity, so that as demand rises, supply responds without the volatile swings in prices that disrupt both individual and national exchequers?

Judicious use of imports is also central to increasing domestic production. Does it, for example, make sense for us to import more than 1 million tons of edible oils and allocate substantial portions to *vanaspati* manufacturers at prices far lower than those paid in the Indian market? Should not our imports, allocation and pricing policies be geared to ensure that our own farmers receive a return commensurate with encouragement of enhanced investment in oilseeds? We cannot and should not end

imports in the short run: but we can employ and deploy imports so as to encourage -- not discourage -- our own production.

Markets also mean creating national buffers and grids to ensure that seasonal and locational surpluses and shortages do not cause commodities to be sold at distress prices in one part of the country while consumers are gouged in another. Does it make sense to restrict the movement of edible oils from a surplus production state -- causing low returns to its producers -- while consumers next door can no longer afford the commodity? Should we allocate proportionately equal amounts of edible oil to the Public Distribution System in a surplus production state as we do to a deficit state?

Under Operation Flood, we have worked to create a national buffer stock of skim milk powder and butter oil. This enables maintenance of producer prices during seasons of surplus, and moderation of consumer prices during lean seasons or years. Similarly, the National Milk Grid allows movement of milk from areas of surplus to areas of shortage. This same model must be applied to other forms of fats and oils to ensure that enhanced availability is not simply a meaningless national average but ensures that fats and oils are available in every part of the country and to every section of the community.

Markets also mean attention to consumer preferences. Edible fats and oils are available in a variety of forms. In some areas the preferred forms are beyond the reach of the common man. While we are have seen that consumers will increasingly buy fats and oils by price, rather than type, can we not blend oils, reproducing the preferred flavour, but at a price the average family can afford? A small start has been made on this, but there remains a long way to go.

Last, but not least, fats and oils can be transformed into a variety of products. Some of these are basic -- fluid milk, vegetable oil, oilseed extractions. Some have significant value-added potential -- butter, cheese, chocolates, *vanaspati*, margarine, and a range of texturized vegetable protein products. As we seek to ensure that the basics remain

available to the broadest segment of our population, and with a view to ensuring that our producers receive a fair return, we must judiciously allocate a portion of our oil and fat to these value-added products permitting, if you will, taxation of the affluent to subsidize supply of basic nutrition to the average consumer. I would submit, however, that when the luxury products are produced by firms who are not supplying the basic necessities, we have a serious imbalance. We have fought, and will continue to fight, the allocation of licences for such products to firms that are not committed to supply fluid milk, vegetable oil and other basic products to all strata of society. It makes no sense for the value-added from such luxury products to go into the hands of corporate stock-holders rather than to reward and encourage producer investment.

Technology

I mentioned that one major factor in Amul's success was our investment in technology: we were able to conserve milk products during the flush season and then recombine them during the lean. Products such as butter, cheese and baby food generated the value-added that enabled us to build a strong service network for our member producers.

The exploitation of modern technology is, then, a second critical factor in enhancing the availability of fats and oils. It is modern technology that creates the efficiencies and returns from value-added products that sustain and build a producer-owned structure.

Think, for a moment, about traditional handling of milk and a modern procurement, processing and distribution system. Traditionally the farmer milks her cow or buffalo: unwashed hands on an unwashed udder with milk flowing into a bucket rinsed with unclean water. The milk is collected and mixed with other milk and carried -- winter or summer -- miles to a town or city when it is redistributed into other dubious containers and on to the consumer. Milk spoils very rapidly and preservatives are often added. Even with our modern handling systems, we still lose some milk between producer and consumer. But we lose far less than is lost by the traditional trade. Technology reduces loss and, by

doing so, not only increases availability but also lowers costs. It is the producer and consumer, after all, who ultimately pay for such losses.

In addition to milk processing, vegetable oil processing is another area where technology makes a difference. Much of the oilseed in this country is crushed by *ghanis* and small expellers. These can reduce the residual oil in the cake to between 7percent and 10percent. A substantial percentage of this cake is then used for fertilizer or is fed directly to animals. If the oil cake is subsequently solvent-extracted, that process takes place after the cake has been stored, transported, and then stored again before processing. This cause substantial increases in Free Fatty Acids and results in high refining losses. The state oilseed growers' cooperative federations that we have promoted have been among the first to create large, totally integrated processing units where oilseed cake moves from the expeller to the solvent-extractor and where oil then moves on immediately to the refinery. In a country that is spending precious foreign exchange on import of oil, how can we permit the loss of thousands of tons of oil by primitive, economically and technically inefficient processing?

Technology offers us considerable additional scope for enhancing our supply of fats and oil. At present our cottonseed oil production is only half of the cottonseed oil production potential estimated on the basis of scientific processing of entire cottonseed available. We produce close to 90 million tons of paddy, with some 4.5 million tons of rice bran. If this were all solvent-extracted, it would produce 700,000 tons of edible oil. Ironically, we have nearly sufficient rice bran processing capacity in the country. This capacity is, however, only utilized at about 33 percent and that to produce primarily industrial oil. Again, a technology to overcome the problems of stabilizing rice bran drawn from a widely dispersed milling industry would substantially enhance the availability of edible oils in India. Need I add that despite significant potential, we have not made any serious progress in regard to exploitation of minor oils.

The vegetable fats and oils market is closely inter-linked with the oilseed extractions market. Today, we depend on exports of our

extractions, rather than expanding the domestic sale of high protein animal and human foods. Is it not ironic that a country which is said to be protein deficient exports tens of thousands of tons of protein in the form of oilseed extractions? And, in doing so, we are linking our oilseed and oil prices to an international market over which we have little influence and less control. We announce from the roof tops that we are going to import a million tons of vegetable oils. Immediately the international market price of vegetable oil soars upwards. As a consequence the oilseed extraction market dips downwards. So we buy vegetable oils at higher prices and realize less for our oil cake exports. We buy oil every Thursday. I would not be surprised if the international vegetable oil price peaks every week on Thursday! Surely there must be a more sensible way to import vegetable oils.

We have made and are making substantial strides in improving the efficiency and economy of technology application with regard to oils and fats in India. But the task is larger than can be managed by a single set of institutions. Let me ask, then, who is doing the applied research in this country necessary to produce stabilized rice bran efficiently and economically? What institutions are pressing on with the research necessary to develop dal and other analogs using soybean, groundnut and other oilseed meals? Do not these and related subjects comprise a research agenda of the greatest importance to our nation?

Dedicated Professionals

You will pardon me if I pay tribute to the professionals who are galvanizing our dairy and oilseed sector through producer-owned cooperatives. These are people who have risked -- and regrettably, in some instances have lost -- their lives fighting for what they believed. The social and economic changes brought by the Anand Pattern do not come easily. There are vested interests who have much to lose and who fight the battle with neither ethics nor character. We have had cars run off the road in the middle of the night; processing plants have been sabotaged;

hired *goondas* have attacked our officers. This has not been a battle for the feeble spirited.

What is, however, more significant are the daily efforts of the thousands of professionals who work for Anand Pattern Cooperatives. There is little glamour and less recognition. Yet, there are veterinarians, engineers, technologists and agriculturists who work from early morning to late at night, summer and winter. There are officers who, when their task requires it, return home to their families long after midnight. These are the young men and women who ask themselves at the end of every day whether they have earned the salary paid to them by their farmer employers.

Are such professionals unique in this country? Are they among a minority? Frankly, I think not. To the contrary, the professionals employed by our farmers in Anand Pattern cooperatives are representative of the majority of young men and women in this country today. They have a belief in their country and the desire to serve it. They have a good character. What we have been able to give them is a purpose to serve that they can believe in, and an environment where they can work, free of fear or favour.

Committed Producers

Those of us who look at the problems of production often make the mistake of concentrating on inputs and outputs. If we invest so many tens of millions of rupees in so many tons of this and man-hours of that, then we will raise production by such and such a factor.

We continue to handle the vegetable oil problem in this truncated and uncoordinated manner, assigning different aspects of the problem to different Ministries. For example, the import of vegetable oil -- which obviously has a tremendous bearing on internal production -- is handled by the Ministry of Commerce and the State Trading Corporation. The volume of business is of such magnitude that powerful vested interests

now insist on continuing and expanding imports. The distribution of vegetable oil is handled in the Civil Supplies Department. Because this oil is distributed at well below the Indian market price, powerful vested interests now promote the distribution of this cheap oil which damages the interests of farmers who produce oilseeds. And the irony is that such subsidized distribution is done through what they call "fair" price shops. I believe these shops are termed by many farmers as “unfair” price shops. The corruption such subsidized distribution generates must be seen to be believed.

It is the production of vegetable oil that is left to the poor Ministry of Agriculture. They have to press on with their attempts to increase production while the other two Ministries are merrily depressing the market price for the oilseeds. Now we do have a Technology Mission to attempt to coordinate these various efforts. I can only wish it good luck.

In my opinion, the most important technology that needs to be deployed to increase production is to pay the farmer a good price for his produce and to provide him an assured market. Our farmers are not fools. They will produce more only if they have an economic incentive to do so. The beginning and end of agricultural production -- enhanced availability of oils and fats -- has to be the farmer.

We import over one million tons of vegetable oil per annum. That is the production of some three million tons of oilseeds. We produce some 13 to 14 million tons of oilseeds per annum. All we need to do, then, is to raise that by 20 to 25 percent, a task that boils down to urging another two or three quintals of oilseeds out of each hectare of oilseed area. That shouldn't be all that difficult!

Now we have planners working on this question. And we have agricultural scientists. There are processing technologists studying extraction. Economists are working on input-output ratios, cost-benefits and such. Policy makers are weighing pros and cons of imports and allocation. Just about everyone is involved. Everyone, except the farmers.

We have involved farmers in dairy cooperatives. I believe the evidence speaks for itself. As I mentioned at the outset, in the last decade Amul alone has raised annual fat availability by about 4,000 MT; since Operation Flood began, total milk-based fat availability has increased by more than one million tons.

I would submit that it is when the farmer is given control, when he is the end of production rather than treated as the means, and when the farmers' energies, ability and wisdom are linked with the skills of the dedicated professional, it is then that we see dramatic change. The Indian farmer, I firmly believe, is one of the best in the world. He works with very poor resources and in a system which, all too often, exploits him. Yet he survives, and even thrives. When given the opportunity and the tools, he produces miracles.

Those of us who are of our country's urban elite often fail to recognize the tremendous resource that our nation's farmers represent. It is that resource, linked with the professional manager, that can return India to its position as a surplus producer of oils and fats. But, we must give the farmer a stake in his own organization, and we must support him with rational markets, technology and our finest young professionals.

Ladies and gentlemen, as I said at the outset of this talk, I have spent much of my life trying to increase the availability of fats and oils. What I have said today is but one way of looking at the subject. As you all know, there are few simple answers. Nonetheless, I believe that just as we have surprised the sceptics with our green revolution and our white revolution, we can surprise them by attaining a large measure of self-reliance in fats and oils. It is, however, largely a human question. We can and must create a market environment that encourages farmer investment, and we must seek to discover and exploit technologies to improve the production and utilization of oilseeds and oils. But, most important, we must build on the resources represented by our young professionals and by our nation's farmers. Without their involvement, we cannot succeed. With their involvement, we cannot fail.

Thank you.

Oil Technologists Association of India

February 10, 1987

Prof. J. C. Kane Memorial Lecture

Achieving Professor Kane's Dream

Chairman Godrej, Members of the Board, Members of the Oil Technologists Association of India, ladies and gentlemen: I am deeply honoured and grateful to you for having conferred upon me the Professor J.G. Kane Memorial Award. I am pleased to join such distinguished earlier recipients as Dr. M.S. Swaminathan, Dr. AD Karve, Professor D.V. Rege, Dr. S. Varadarajan, Professor M.M. Chakraborti and Shri T. Thomas. At the same time, it is important to recognize that if the award honours me, it honours more the hundreds of officers of the National Dairy Development Board, Indian Dairy Corporation, state dairy and oilseed federations. Far more it honours the hundreds of thousands of farmers who have joined Anand- Pattern cooperatives and demonstrated that, given the opportunity and the responsibility, there is little that the Indian farmer cannot achieve.

While I was most pleased to receive the Professor J.G. Kane Memorial Award, I note that it carries with it a condition: the recipient must speak to this eminent body of scientists and technologists. That he must do so in a manner that meets the high standards of Professor J.G. Kane makes the task all the more humbling. Professor Kane was distinguished not only by his scientific achievements, but by his dedication to India's production and utilization of oilseeds. As Dr. M.S. Swaminathan noted when he delivered this lecture some years ago, Professor Kane dreamt of an India where the shortage of edible oils would be a problem of the past. He devoted his life to the realization of this dream.

Let me begin, then, to speak with you about the prospect of oils and fats in India over the next decade.

The first point, sadly, is that we remain far from Professor Kane's dream. We are presently importing about 1 million metric tons of oil

annually, a burden to the national exchequer that has been eased of late only by the low prices of edible oils on the international market. These prices are a cyclical phenomenon and we cannot expect to escape so easily in the future. That future, our experts tell us, portends annual deficits of between 1.5 and 3 million metric tons of edible oil should our present trends continue. Even should these deficits be made up by imports, the per capita availability of edible vegetable oils would be short of desirable levels.

I have used the term "edible vegetable oils" quite intentionally for edible vegetable oils are not the alpha and omega of India's fats and oils situation. Unfortunately we too often look at the picture through such distorting prisms. In doing so, we fail to accurately identify the nature of the problem and, as dangerously, willy-nilly pursue haphazard solutions. It may be argued, in fact, that one of the most serious obstacles to solving our oils and fats deficit is our failure to see the full picture and our insistence on dealing with oils and fats in a one dimensional, compartmentalized, departmentalized way in which the time span extends no more than a few years into the future or -- more often -- is firmly anchored in the past.

When we speak of India's oils and fats, it is important that we include consideration of both edible and industrial oils on the one hand and oils of animal, marine and vegetable origin on the other.

Although edible oil is at the forefront of our concern today, we produce, consume and trade both edible and industrial fats and oils, as well as their by-products. There are important inter- relationships between this complex of products which are important to any rational approach to ensuring adequate production.

When we look at human nutrition and the role played by edible fats and oils, it is important that we remember that vegetable oils are but one source of these nutrients. We consume fats and oils in a variety of vegetable, animal and marine products, all of which contribute to

satisfying our nutritional requirements. May I mention one amongst these which I have been involved with for some time: milk and milk products.

Milk and milk products are one of our most important sources of nutritional fat. It is also an area where our progress has been significant. In 1969-70, we were producing less than 21 million metric tons of milk -- only 19 percent more than we produced almost two decades earlier. Per capita milk consumption had dropped to 107 grams per day: in that year the average Indian consumed only 6 to 6.5 grams of milk fat daily, a mere 2.3 kilograms per year.

In 1984-85, our national milk production had increased to 38.7 million metric tons, 122 percent higher than the 1951 base year. Our average fellow countryman now consumes more than 8.5 grams of milk-based fats daily, or 3.1 kilograms per annum. So, when we look at consumption of fats and oils, our annual per capita direct consumption is between 9 and 10 kilograms, of which milk fats represent some 30 percent. This, of course, does not account for the fats and oils consumed when we eat vegetable and animal or marine products.

While Operation Flood has not been sole contributor to our increased national milk supply, I believe we can take some credit and pride in the increase of more than one million metric tons of edible fats attributable to this rise in milk production. I think you will agree that this achievement is even more significant when you realize that the price of milk and milk products has increased only 175percent since 1970-71, when compared with 250percent for fruits and vegetables, 345percent for fish, eggs and meats, 370percent for pulses, and 260percent for all commodities. It is also important to note that the cooperative dairy structure in India returns as much as 70 percent of the consumers' rupee to the producer, a figure which I challenge others to meet. It is never possible to reduce prices for the consumer while increasing them to the producer; in this instance, we have come as close as is realistic to expect. Price increases for the consumer have been moderate while the producer has received an increasing incentive to improve his or her productivity.

While all this has been happening with milk, we have been paying a mounting foreign exchange bill for edible vegetable oils. We have undergone a rapid and distressing decline from being an exporter of edible oils to one of the world's major importers.

When we speak of vegetable oils, it is important that we are clear what we mean. Technocrats and bureaucrats speak of the five, or seven or nine "major oilseeds". Determining what is and what is not a major oilseed seems, at times, to approach the inanity of those theologians who debated the number of angels who could sit on the head of a pin. In fact, India is blessed with crops that produce virtually all the major vegetable oil groups: the lauric acid oils are represented by coconut; cocoa is an increasing source of vegetable butter; cottonseed, groundnut, maize, sunflower and safflower are all sources of oleic/linoleic acid oils; euric acid oils grown include mustard and rapeseed; we produce linseed and soyabean, both linolenic oils. Additionally, we produce substantial quantities of rice bran oil and have the capacity to produce considerably more. Each of these oil types has various advantages and disadvantages for human and industrial uses.

During the last decade we have been importing substantial quantities of vegetable oils at a significant cost to our foreign exchange reserves. This has caused great concern -- and rightly so. Unfortunately this concern has given rise to a patch work of programmes and institutions and would appear to have had a greater impact on unemployment than on production.

One important question to address is how far are we from self-sufficient oil production.

One million tons of vegetable oil is the equivalent of: 3.6 million tons of groundnut; 3 million tons of mustard; 2.7 million tons of sunflower; 3.5 million tons of safflower; or about 6.5 million tons of cottonseed or soyabean.

Kharif season groundnut is our major oilseed in terms of area and contribution to the national oil supply. In 1975-76, Indian farmers planted 6.8 million hectares of *Kharif* groundnut, achieved a national average yield of 900 kilograms/hectare, and produced 6.1 million tons of groundnut and an estimated 1.4 million tons of oil. In 1983-84, area had decreased by close to 500,000 hectares; yields had declined; and total production was more than 750,000 tons lower than a decade earlier. If we had managed during that same decade to increase area and yields by 10 percent each, the 1983-84 groundnut production would have been 1.26 million tons more than in 1975-76, reducing our oil imports by at least 300,000 tons.

Approximately two-thirds of the groundnut crushed in India is not solvent extracted. This means that more than 1 million tons of expeller cake is used as cattle feed, fertilizer, and the like. The recoverable oil in this case is somewhere between 7.5 to 10 percent. The loss is as much as 100,000 tons of oil.

We produce cotton on 7.5 to 8 million hectares annually, producing something between 2.5 to 3 million tons of cottonseed. We only exploit about 45percent to 50percent of cottonseed oil potential. If we crush all the cottonseed and solvent extract only after decorticating the seed, we would increase edible oil by more than 300,000 tons.

India has the potential to produce more than 700,000 tons of rice bran oil. Against that we are producing around 200,000 tons, of which only 10 percent is in edible form. A much as 500,000 tons of oil potential is being lost.

Maize contains good quality oil. We produce more than 8 million tons of maize per annum, enough to produce well over 100,000 tons of vegetable oil -- not to mention ethanol which would relieve the pressure on molasses for industrial alcohol, freeing it for the animal feed industry.

Consider, if you will, the impact of:

Item	*Increase*
10 percent increase in Kharif groundnut area and yield	300,000 mt
Solvent extraction of all groundnut cake	100,000 mt
Full utilization of cottonseed	300,000 mt
Exploitation of maize potential	100,000 mt
TOTAL	900,000 mt

I have mentioned the achievements in increasing the availability of milk-based fats. During the last 15 years we have made dramatic strides in production of milk and milk products. Why, it must be asked, has similar progress not been achieved with other edible oils?

The answer, unfortunately, is that we continue to handle the vegetable oil problem in a totally uncoordinated manner by assigning different aspects of the problem to different ministries. For example, the import of vegetable oil has a tremendous bearing on internal production. Imports are handled by the Ministry of Commerce and the State Trading Corporation. The volume of business is of such magnitude that powerful vested interests are created that argue for continued and even expanded imports. Need I mention our friends and colleagues in the *vanaspati* industry?

The distribution of vegetable oil is handled by the Civil Supplies Ministry which supplies vegetable oil well below the domestic market price. Here again a powerful vested interest is created to support and expand the availability of cheap oil. The irony is that such subsidized distribution is done through what are called "fair price" shops. The Indian farmer calls them "unfair price" shops for every kilogram of subsidized oil undercuts the oilseed price for the farmer.

The licensing of oilseed processing units rests with the Ministry of Industry. Hence, for example, we see a queue of Johnnies-come-lately setting up soybean processing plants in Madhya Pradesh to take advantage of the pioneering efforts of the Madhya Pradesh Oilseed

Growers' Federation. Has anyone in Udyog Bhavan ever suggested that these industrialists set up providing grower services? Is it not remarkable that we don't see soybean processing plants in Udaipur and Karimnagar? Large integrated paddy processing units in Guntur and eastern Bihar?

It is the production of oilseeds that is left to the poor Ministry of Agriculture. They have to press on with their attempts to increase production while Commerce imports oil for the *vanaspati* industry and Civil Supplies distributes it to the unfair price shops and industry approves and the banks merrily finance over-capacity in one area while potential producing areas are ignored.

Why have we succeeded with increase in milk production and availability? First, recognition of the importance of markets; second introduction of modern technology; third, deployment of young, qualified and dedicated professionals; and fourth, creation of structures that produce committed producers. In a country where consumers have low purchasing power and producers are even poorer, the structure we advocate — the cooperative structure — transfers to the farmers the margins of procurement, processing and marketing also.

Markets

I have often said, "No Bombay -- No Anand." The opposite, however, isn't necessarily true. You can have a Bombay, but not have an Anand. The grave shortages of food, clothing and housing in our country and other parts of the world offer sad evidence of this fact.

People, by themselves, do not constitute a market. They must have the wherewithal to consume. In a country such as ours the national prosperity depends on our agricultural producers. Too often in the past, given the choice between a low price for the urban consumer and a reasonable return for the rural producer, we have favoured our consumer. This is the result of a democratic system where there are competing pulls and pressures. At the same time, we must recognize that when the rural

producer subsidizes the urban consumer, the consumer will pay through higher prices over the long term.

We have markets. What we must ensure is that those markets operate with a fair degree of freedom so as to ensure that there is a reliable and remunerative return to our producers.

Markets can be distorted in many ways. One is to control consumer prices. If I can only sell milk in Anand for Rs. 2.50, and if I have squeezed the last drop of efficiency out of my processing and distribution system, then I can only pay the farmer the difference. If the farmer doesn't meet costs with that payment, he will invest less. Production will drop. Total supply will decline. And, ultimately, either prices will have to rise very sharply, or government will have to pay a very heavy subsidy to make goods available to the consumer, or be willing to spend tens of millions of rupees in foreign exchange to import the milk.

Governments are not the only ones who distort markets. Is it not curious that vegetable oil prices drop just before the *Kharif* and *Rabi* harvests -- regardless of anticipated production. Is it not even more curious that they shoot up again a few weeks later, once the farmer has parted with the lion's share of the produce? Is a market that lowers producer prices in years of short production not a distorted market? Such practices may ensure hefty profits for the trader, but they destroy the farmer -- the goose that lays the golden egg for this nation of ours -- and they cost the nation tens of millions of dollars of hard-earned foreign exchange.

Markets are also distorted by injudicious use of imports. Does it make sense for us to import more than 1 million tons of edible oil and to allocate substantial quantities to *vanaspati* manufacturers at prices far lower than those in the Indian market? Is it not correct that our imports, allocation and pricing policies should be geared to ensure that our own farmers receive a return commensurate with enhanced investment in oilseeds? We cannot and should not totally end imports in the short run: but we can and must employ and deploy imports so as to encourage our

own production and productivity. If we fail to do so, we will reach a stage when none but the wealthy can afford oil.

Let us assume for a moment that we from tomorrow become self-sufficient in vegetable oil. At what price will the Civil Supplies Corporations and Departments distribute vegetable oil to consumers through their fair price shops? At imported prices or at the price at which Indian farmers can produce the oil? At what price will the *Vanaspati* Directorate allot vegetable oil to the *vanaspat*i Industry? Clearly the answer has to be "at Indian prices". Obviously self sufficiency can be achieved only if you assume we are self-sufficient and our policies are dictated by that one assumption. It is good to see government policies recently showing a clear shift in this direction. Decisions regarding quantity of vegetable oil to be imported and the price at which it should be issued must in the final analysis be made the Ministry which is responsible for achieving self-sufficiency -- namely the Ministry of Agriculture. It is not fair to allot all the tasks that bestow power, pelf and perks to other Ministries and only the donkey's work and responsibility to the Ministry of Agriculture.

Last, but not least, fats and oils can be transformed into a variety of products. Some of these are basic: fluid milk, vegetable oil, protein meals. Some have significant value added: butter, cheese, margarine, chocolates, vanaspati, texturized vegetable protein products. As we seek to ensure that the basics remain available to the broadest segment of our population, and with a view to ensuring that our producers receive a fair return, we must judiciously allocate a portion of our oil and fat to these value-added products allowing, if you will, taxation of the affluent to subsidize basic nutrition for the average consumer. I would submit, however, that when luxury products are produced by firms who are not supplying basic needs, we have a serious imbalance. We have opposed, and will continue to oppose, the licensing of firms to produce luxury products if those same firms are not committed to supply basic products to all strata of society. It makes little sense for the value-added from such products to go into the hands of corporate stockholders rather than to reward and encourage producer investment.

Technology

The exploitation of technology has been central to our success in increasing the national milk supply. Dryers to produce powdered milk; cheese and butter production facilities, UHT Tetra-pak processing; modern vaccines; least cost feeds — all of these and more have contributed to a modern and efficient dairy industry that returns more to the producer.

The exploitation of modern technology is, then, a second critical factor in enhancing the availability of fats and oils. It is modern technology that creates the efficiencies and returns that sustain and build productivity and production.

A simple example is the creation of modern integrated oilseed processing plants which take oilseed and move it through preparation, extraction and refining. Today, when we are spending precious foreign exchange on import of oil, how can we permit the loss of thousands -- hundreds of thousands -- of tons of oil by not only allowing -- but encouraging -- primitive, uneconomical and technically inefficient processing? We talk of robots in the assembly line to manufacture Maruti cars. But at the same time we talk of encouraging small, inefficient units where farmers' produce is processed in a manner designed to benefit a few thousand factory workers while condemning hundreds of thousands of our farmers to accept a lower return for their labour. Our organized labour has already got into the habit of cutting for themselves a larger and larger slice of the Indian cake, leaving less and less for those who toil in the fields. Soon our farmers will have to ask for overtime, Dearness Allowance, paid holidays and Bonus not to mention Leave Travel Concession.

We have created rice bran processing capacity in this country that could solvent extract enough bran to produce 700,000 tons of edible oil. This capacity is utilized at 33 percent and produces primarily industrial oil. Why? Because we continue to follow policies that encourage small, widely

dispersed paddy milling which, in turn, ensures that we produce bran in a form that cannot be economically processed into edible oil.

The vegetable fats and oils market is closely linked with the oilseeds extractions market. Today, India is largely dependent on exports of its extractions, rather than domestic sales for animal and human foods. Is it not ironic that a nation said to be protein deficient is exporting tens of thousand of tons of protein in the form of oilseeds extractions. And, in doing so, we bind our oilseed and oil prices to an international market over which we have little influence and less control. We announce from the rooftops that we are going to import a million tons of vegetable oil. The international oil price spurts up and the oilseed extraction market drops as a consequence. So we buy vegetable oil at higher prices and realize less for our extractions.

When we talk of technology we must also talk of the technology of information. Today we have statistics for groundnut production in 1983-84. This is February of 1987. Is there anyone in this room who will tell me that these and other production statistics are reliable? Who here amongst the Oil Technologists of this country can tell me, with confidence, the total expeller capacity and the monthly crush? These are statistics that other countries require by law and which are available in time for planning and decision making -- whether by the firm or by the nation concerned. If we want to progress toward the 21st Century, we must at least bring our information technology into the 20th.

We have made and are making substantial strides in improving the efficiency and economy of technology application with regard to oils and fats. Many of you here have made important contributions to this end. But what has been achieved is far short of what *must* be achieved. Applied research in oilseed production, processing, transport and packaging technology comprises a research agenda of the greatest importance to the nation.

Dedicated Professionals

You will pardon me if I pay tribute to the professionals who have galvanized our dairy and oilseed sector through their promotion, nurturing and management of producer-owned cooperatives. These are people who have risked -- and regrettably in instances -- have given their lives for what they believed. The social and economic changes brought by the Anand Pattern do not come easily. There are vested interests who fight the battle with neither ethics nor character. It has not been a battle for the feeble spirited.

What is, however, more significant are the daily efforts of the thousands of professionals who work for Anand Pattern cooperatives. There is little glamour and less recognition. Yet, there are agriculturists and veterinarians who work from early morning until late at night, summer and winter. There are officers who return home to their families long after midnight when their responsibility demands it. There are young men and women who ask themselves at the end of every day whether they have truly earned the salary paid to them by their farmer employers.

I have been asked by those who have seen our work whether our professionals are unique in this country? Are they a tiny minority? I think not. Rather, I increasingly believe that our professionals are representative of the majority of young men and women in this country today. They have a belief in their country and desire to serve it. They have a good character. They have ability. What we have been able to offer them is a purpose to serve, a purpose that they can believe in, and an environment where they can work, free of fear or favour.

Committed Producers

Those of us who look at the problems of production often err by concentrating on inputs and outputs. We delude ourselves into believing that if we invest so many tens of millions of this, or tons of that, then we will raise production by such and such a factor.

Now we have planners working on the question of vegetable oil production. And we have agricultural scientists. There are processing technologists studying extraction. Economists are calculating input-output ratios. Policy makers are weighing the pros and cons of imports and allocations. Newspaper columnists are sharing their wisdom on the subject. Just about everyone is involved. Everyone, that is, except our farmers.

We have involved the farmers in dairy cooperatives. They own the cooperatives; they provide the leadership. They control the fruits of their labour and, if you will, their own destinies. I believe the evidence speaks for itself. In the last fifteen years since Operation Flood began, total milk based fat availability has increased by more than 1 million tons a year.

I would submit that it is when the farmer is given control, when he is the end of production rather than treated as the means, and when the farmers' energies, ability and wisdom is linked with the skills of the dedicated professionals and technologists, it is then that we see dramatic change. The Indian farmer, I firmly believe, is one of the world's best. He works with very poor resources in a system which, too often, exploits him. Yet he survives and even thrives. When given the opportunity and the tools, he produces miracles.

Those of us who are our nation's urban elite often fail to recognize the tremendous resource that is the Indian farmer. He is a resource, linked with the professional, who can turn India back into a surplus producer of oils and fats. It is the Indian farmer, who, alone, can achieve Professor Kane's dream. But, we must give the farmer his stake in his own organization and we must support him with rational markets, the finest technology, and the elite of our young professionals.

Ladies and gentlemen, I have spent much of my life trying to increase our country's supply of milk fat. But I agree that what I have said today is but one way of looking at the subject. As you all know, there are few simple answers. Nonetheless, I believe that just as we have surprised the sceptics with our green revolution, and our white revolution, we will

surprise them once more by attaining a large measure of self-reliance in fats and oils. It is, however, a largely human question. We must build on the resources represented by our young professionals and our farmers. Without their involvement, we cannot succeed. With their involvement, we cannot fail.

Thank you.

Institute of Rural Management, Anand

Sixth Annual Convocation

March 30, 1987

Mr. C. Subramaniam, Distinguished Guests, Members of IRMA's Board of Governors, faculty, graduating students, Ladies and Gentlemen ...

I am indeed pleased to welcome you all to this the Sixth Annual Convocation of the Institute of Rural Management. Over these past years, this ceremony has assumed great symbolic importance for us in Anand; it marks the pledging of one more group of young men and women, equipped by IRMA with the tools of professional management, to the service of our farmers. It also symbolizes our belief that the biggest asset of India is its people, and reaffirms our abiding faith in the dictum that combining the power of our people with the skills of professional managers will give that power the direction and thrust to achieve the true dimensions of development.

It is, therefore, a great privilege for us, Mr. Subramaniam, that you have accepted our invitation to be with us on this solemn occasion. We have admired you all these years as a thinker of distinction, a great institution builder and a statesman who played important public roles with imagination and integrity. We have also admired you for the part that you played in ushering in India's green revolution which helped to make our country self-sufficient in food grain production. We are naturally overjoyed that the students graduating from IRMA today should be blessed by the presence of a distinguished Indian of your stature, erudition and achievements.

I might mention, however, that your presence here today has a significance far beyond your sterling contributions to our national life. Few of those present here today are aware that, 22 years ago, as the Government of India's Minister for Food and Agriculture, you, along with Shri Lal Bahadur Shastri, our late Prime Minister, helped to give birth to the National Dairy Development Board and structured it in a manner that

enabled it to spearhead India's white revolution. Whether you like it or not, Sir, posterity will credit you of playing midwife to this second Indian revolution, too!

I am sure that over these last two decades you have watched with interest and delight how this young innocuous looking institution that you helped to create broke free of its teething trouble and launched Operation Flood with the sole objective of creating a modern dairy industry, commanded by India's milk producers. From time to time, you must have smiled to yourself, tongue-in-cheek, while reading about the many battles that we have had to fight. At the same time, you must have derived considerable satisfaction from the fact that by helping to create the Dairy Board, you helped to ensure that Indian dairying would never be the same again!

With the help of Operation Flood, the Dairy Board has succeeded in transplanting the spirit of the Anand Pattern throughout the length and breadth of India. In the process, it has already created an infrastructure owned by four million milk producer families spanning some 40,000 villages. This structure procures, processes and markets, on an average, one crore litres of milk every day. It pumps into the economics of these villages some Rs. 1,000 crores every year by way of payments for milk. This infrastructure has now come of age and has begun to grow, as never before, at 20 per cent per annum.

While the scale of the impact of Operation Flood itself is enormous, in my opinion, its more valuable outcome is the lessons that we -- those of us who have been involved in planning and implementing the programme -- and, the nation as a whole, have learned.

We have learned, for example, that true development is the development of man, and that the only way to promote the true development of men and women is to put the instruments of development into their own hands. Operation Flood has sought to do just this -- by creating democratic, participative institutional structures for procurement, processing and marketing of milk.

Another lesson that we have learnt is the importance of learning itself -- learning from one's successes and failures. Learning to learn -- and learn rapidly -- became particularly important when, encouraged by the results of our efforts in dairying, the Government of India asked us to do an "Operation Flood" ... first in oilseeds... then, in fruits and vegetables... and, now, in trees... We are convinced that the broad principles of the Anand Pattern are, indeed, applicable in a variety of commodity systems; however, it was not long before we learned that the context of each commodity system was different and, therefore, required that we formulate different operating principles for each.

We also learned that true development is not simply doing more of the same; true development consists in building the institutional capacity to respond to new and diverse challenges; to adapt, to innovate and to create newer institutional forms. The Institute of Rural Management, Sir, is one such institutional innovation. It is our response to the challenge of ensuring that committed professional managers are made available to these young, upcoming institutions of farmers as a result of a planned effort rather than as a result of those fortuitous accidents of the kind that landed me in Anand some 39 years ago.

You, the students graduating from IRMA today, are entering that phase of life where action and accomplishment are more important than knowledge and analysis. For, as Aristotle once said, honour and rewards always fall on those who show their knowledge and good qualities *in action*. You will do well to remember that action springs not so much from thought but from a readiness to accept responsibility, and to wield that responsibility, and to wield that responsibility with decency, dignity and decorum.

You will no doubt experience, as we have done in our times, lessons that teach us that every effective action aiming at a reform of the existing structures must invite resistance and, therefore, opposition and anger. Your challenge is to learn to withstand such opposition and, if possible, to turn it into a source of internal strength. In this game, he is the best sailor who can navigate closest to the wind and extract motive power from the greatest of obstacles.

It is perhaps tempting to try to achieve the changes we want to bring about by revolution and violence. It is true that those in authority often tend to ignore reasonable requests for redress, but then surrender to a display of force. But the gains achieved by violence are often illusory and invariably are accompanied by losses that are more permanent. It is always better to organise the weak and the poor into institutional structures that are viable and strong and to combine their collective power with professional management and to take all steps necessary ensure that such structures will endure. For this we need professional managers, not professional politicians; we need servants of the farmers, not farmer leaders.

So persevere, if necessary for 39 years! For success attends only those who persevere, who see their goal steadily and aim for it unswervingly... who persevere with dedication and faith in the cause they are fighting for. Faith in one's cause is of great importance in this profession. True, you can do very little with faith alone; but you can do nothing without it.

I wish you well.

South Gujarat University

Convocation Address

Nineteenth Annual Convocation

January 16, 1988

Mr. Vice Chancellor, Mr. Pro-Vice Chancellor, Members of the Senate, distinguished guests, ladies and gentlemen, and above all, graduating students of the year ...

You have done me a great honour today, by inviting me to address this distinguished audience -- especially on an occasion of such importance to the graduates who receive their degrees today. To them a convocation is an end, but also, more importantly, a beginning. It is, therefore, a time when anticipation of the future is more important than reflections on the past. Those of you who receive degrees today have completed what is but the first — and with due respect to your University and faculty - perhaps the least important part of your education. Your degree certifies you as one of our nation's educated elite; but how you use what you will apply it, is of far greater importance and will be the more difficult challenge. Your future examinations, will be set not by a University , but by the harsh realities that face our country, the opportunities our many problems offer you for solution and by the fact that you will have to conquer the significant changes in our social, economic and political systems that are inevitable within your lifetime. Already notable changes in these systems are evolving and new institutional structures are emerging. I propose to talk today of a new institutional structure for agricultural development with which I have been involved and to discuss its implications.

It was just at the dawn of our Independence that I found myself -- much against my will I might say — posted as a Research Scientist to the little town of Anand in Kaira District, Gujarat. Being a Government Research Scientist, I had plenty of free time. It was in finding ways to use that time that I got mixed up with some rather remarkable people who were grappling with the problem of exploitation.

Kaira District produces milk, far more milk during the flush season than can be consumed there, or in the surrounding areas. And so, the milk was purchased by traders and a private dairy who would send it to Bombay. The profit, needless to say, went to the dairy -- not to the farmers. Shri Tribhuvandas Patel and his colleagues believed that, through cooperation, the farmers of Kaira District could strengthen their position. As you know, they were proved right. But, it was not without a struggle and not without learning that our efforts could not succeed unless we became involved not only in trading, but in supporting production; in processing; and in the marketing of dairy products. We also learned that the rural poor could command a major enterprise and, in so doing, earn a far greater share of the consumers' rupee. But to do so, the farmer's power had to be linked with the expertise of professional management, management that would represent their interests effectively, persistently and with integrity.

The success of our efforts in Kaira District soon led neighbouring areas of Gujarat to seek our help in organising their dairy farmers into cooperatives. Surat was one of them. As the success began to multiply, the then Prime Minister, Shri Lal Bahadur Shastri, decided that the same approach should be the basis of a new national dairy development policy and, at his instance, the National Dairy Development Board was established. This led to Operation Flood.

What is Operation Flood? It is basically a dairy development programme. It is the organization of 8 million farmers, an organization that gives them a platform to articulate their needs, to demand a better place under the Indian sun. The basis of Operation Flood is giving power to the producer by combining their energies and great resources with the talent and commitment of professional management. More than 75percent of the milk producers are small and marginal farmers and landless labourers — many of them women. Here in the Surat Cooperative Dairy, for example, more than half the milk collected is produced by *Adivasis*, who had previously never produced milk. It is therefore appropriate that some have dubbed Operation Flood the "White

Revolution," for it is a revolution -- not only in production, but in creating a constituency of farmers who, served by professional managers, can exert pressure to promote their own interest, thereby participating effectively in our democratic process. It is no accident that the incomes of dairy farmers have increased. They are organised and they have a voice. We can also take some pride in the fact that because their organizations are managed professionally, and because they are efficient, price increases to the consumer have been moderate.

This revolution has not taken place without opposition. It has been opposed by some politicians, by many bureaucrats, by all middlemen merchants and traders. It has been opposed by advanced dairying countries and by multi-national food companies. It has been opposed by a few who have made their life easy by calling themselves “scientists” concerned with metaphysical, social and economic questions. Lacking the courage or conviction to be a participant they have chosen to watch the game as a spectator, while my colleagues and I -- having chosen a cause -- have had to struggle for it. Yet this coalition of vested interests who wanted to achieve fame by criticizing, who don't want the poor to emerge, and who feel threatened when the poor gain access to the stage of democratic decision-making, has failed. They have failed because of the very fact that the farmers have organized. And they have failed because the salvation of India is that in high places, in all spheres, even among social scientists, there are people of good intentions, of good will and of ability. Such people have not only welcomed the poor to the arena of democratic decision-making, they have actively supported and encouraged this process.

The Government of India, beginning with Pandit Jawaharlal Nehru, has encouraged what we call the Anand Pattern of cooperative development. As I mentioned, it was Shri Lal Bahadur Shastri who was instrumental in creating the National Dairy Development Board so that the Anand Pattern could be extended to every part of the country. It was Smt. Indira Gandhi whose encouragement and support was vital to Operation Flood and, very recently, to creating an alternative structure for vegetable and fruit marketing on the Anand Pattern. And it was Shri Morarji Desai and Shri H.M. Patel who saw the Anand Pattern as the way to replicate the

success of Operation Flood with oilseeds and edible oil. It is Gujarat's present Chief Minister, Shri Amarsinh Chaudhary, who now wants the Anand Pattern to be tried out on power generation and distribution by decentralizing its functions.

Whether with milk, with vegetable and fruit, with oil, or with power, organisation of farmers into cooperative enterprises is the first step towards releasing our rural population from the bonds of poverty. By their command over procurement, processing and marketing, the farmers ensure that their share of the consumer's rupee increases, providing them with a remunerative and reliable return on their investment. Increased and stable income creates the conditions for further investment in production and productivity, an investment supported by the cooperatives which provide the services and inputs the farmers require. When the cooperatives achieve an influential share of the market -- this forces the trade to conform, to compete with fair prices to the farmer and to the consumer. Most important, the cooperative enterprise, linking farmers locally, regionally and nationally, empowers the rural poor and can give them a strong voice in our democratic process.

This is important because decision making of a Government is often not based on the merits of the case, but as a response to the pressures exerted on its policy makers. In our democratic form of Government, our decision makers weave their path between conflicting pressures, opposing a few, surrendering to many, and compromising with all. In our last forty years of free existence most of these pressures have come from our industrialists, our organised labour and from those who reside in cities. Hardly any pressure has been applied by the farmers who reside in our villages.

We have fountains with coloured lights in cities, but no safe drinking water in many of our villages. Fancy five star hospitals proliferate in our cities, but where is the health system needed to put two drops of a disinfectant in a newly born village child's eye to prevent that child from going blind. Ask yourselves why we have expensive public schools,

colleges and universities in our cities; but no chalk-boards in many village schools.

Our urban elite have shamelessly usurped the scarce resources of our land leaving very little to the 75percent of our people who live in our villages. Our organized labour who work in our factories and offices have helped themselves to more and more for working less and less. They have assured pay scales which are revised every three years, Dearness Allowance to compensate them for increases in the cost of living index, House Rent Allowance, Bonus, Gratuity, Provident Fund, Leave Travel Concession, Overtime, Privilege Leave, Sick Leave, Maternity Leave, paid holidays and what not. As against this, those who work in our farms get no assured income, are exposed to the vagaries of the monsoon and have no assured jobs.

Our constitution assures equality of treatment to all Indians and yet how is it that laws are passed to pay retrenchment compensation to those who lose their jobs but no jobs are assured to those who have none. Is it not time we converted the *Labour* Minister and his department who continue to specialize in giving more to those who already have so much into an *Employment* Ministry which will ensure that those who have no jobs will get one? Is it not time we stopped emptying our treasury for paying more and more to Government employees who keep proliferating? Should our factories continue to provide us bad quality products at high costs because we have to surrender more and more to the unreasonable demands and suffer the increasing indiscipline of organised labour? At what point of time do we call a halt to this looting of India a powerful minority and begin to look into the legitimate demands of 75percent of our population who live in our villages?

It is perhaps tempting to try to achieve the changes we want to bring about by *rasta rokos*, revolution and violence. It is unfortunately true that those in authority often tend to ignore reasonable requests for redress, but surrender to a display of force. But the gains achieved by violence are often illusory and short-lived, while they are always accompanied by losses which are more permanent. It is always better to

organize the weak and the poor into institutional structures that are viable and strong and to combine their collective power with professional management, and to ensure that such structures will endure. For this, we need professional managers not professional politicians; we need servants of the farmers, not farmer leaders.

All this is not to say that politicians and a bureaucracy are not needed. Nor is it to say that systems of government can easily avoid an urban orientation. The nature of government and bureaucracies is such that their apex and focus is almost bound to be the big cities. Probably that can't be helped -- but it does mean that, when it comes to rural development, the Government structure can best confine itself to identifying national and state goals and priorities, while the bureaucratic structure can best confine itself to guiding, monitoring and, if necessary, correcting the implementation of the policies and goals established by the Government. It is only when the bureaucratic structure also tries to do the implementing itself that inevitable difficulties arise; a bureaucratic structure is not suited to the practical tasks of getting things done in our villages, or to working with farmers.

I submit cooperatives offer an alternative, effective structure. But then, are cooperatives in India what they should be? Mahatma Gandhi once said, "Cooperative societies are ideally suited... not only for developing village industries but also for promoting group effort by the villagers." He urged that village workers should study the occupations that could be undertaken in each village and "then proceed to organize these occupations on a cooperative basis." He wrote that "... cooperative farming and dairying is undoubtedly a good goal, promoting national interests."

Cooperation has existed in our country from time immemorial: and it was this cooperation that I believe Gandhiji espoused. A cooperative system initiated by the British, organised by the Government and ruled by a Registrar was alien to our culture and our genius.

It was therefore with great sorrow and distress that those of us who hoped to see the cooperatives bloom after Independence saw that while political power had been transferred, the approach to cooperation remained the same. While the numbers of cooperatives multiplied to every corner of the land, our leaders and officials paid scant heed to Gandhi's words: "Cooperation, which is rooted in the soil, always succeeds," he said. Rather, many Registrars of Cooperatives and their departments have seen it as their duty to uproot cooperatives that have sprung from our native soil; instead they have sought to spread cooperatives merely as extensions of their departments, cooperatives which were firmly rooted in the bureaucracy, a soil in which they might *exist*, but where they would never *flourish*. In so doing they ignored Gandhiji's admonition that "that Government governs best which governs least."

Today we in India claim to have one of the largest cooperative movements in the world; more than one lakh fifty thousand cooperative organizations cover the length and breadth of our land. Had these cooperatives been guided by the wisdom of Gandhiji, by the conviction and purpose of a Tribhuvandas Patel, they would no doubt have transformed our rural areas, empowering our farmers, allowing them to direct their own destinies. Our democracy would have been strengthened at the grassroots as our rural people learned to use wisely the power of one man with one vote. Economic justice would have been achieved in far greater measure as exploitation by money lenders, traders and vested interests was curbed by cooperation. Social justice, too, would have been advanced by the lessons of cooperation where rich and poor, Hindu and Muslim, Brahmin and Harijan unite for the common good.

We are now at work to replicate Anand Pattern cooperatives in all parts of India. In increasing number of instances our dreams are dashed against the rocks of politics, bureaucracy, and disregard of the fundamental principles of cooperation. What should have been a people's movement has been officialized, bureaucratized and politicized. Lest I be misunderstood, there is nothing wrong if a political person serves as a cooperative leader. Shri Tribhuvandas Patel was both an outstanding

political leader and a truly great cooperator . What *is* wrong is when such a person puts his political purposes above the principles and purposes of cooperation. The cooperative can be a powerful instrument of constructive change in our villages, but only if its leaders behave with decency, honesty and integrity. We must remember this all the more here in Gujarat where large cooperative businesses have come up. With great foresight and wisdom, Mahatma Gandhi once said, "The cooperative movement will be a blessing to India only to the extent that it is a moral movement."

I like to think that it is now being realized that cooperatives can serve as powerful instruments of social and economic change *if* we rescue them from Government and restore cooperatives to their members. Moves are afoot to modernize and democratize the cooperative movement and to find within it an honoured place for professional management. I hope these changes will soon be brought about and the institutional structure that I today discussed with you, will assume strength and meaning. If I have been able to explain to even a few of you what the changes which are taking place now mean to me -- and if even a few of you are, as a result, influenced to try your hand at serving our country's poor rural producers -- if even a few of you take up the opportunities which now beckon you to our countryside -- then I shall feel that I have not done such a bad job here today.

I wish you all well.

Shastri Indo-Canadian Institute

Dimensions of Development

New Delhi, March 9, 1988

Opposition To Change
The Anand Pattern: A Case Study

Mr. Chairman, my distinguished respondents, Mrs. Howe and Professor Menon, and friends. It is indeed an honour to have been asked to participate in these discussions. The Shastri Indo-Canadian Institute symbolizes much that binds our two nations, representing as it does a joint intellectual enterprise characterized by mutual respect. I find it a particular pleasure to participate as it was our late Prime Minister, Shri Lal Bahadur Shastri, whom your Institute honours, who was instrumental in the creation of the National Dairy Development Board in 1965, who asked me to head it, and gave us our mandate — the replication of Anand in other parts of India.

Having expressed my appreciation and pleasure at your kind invitation, I must balance that with mention of my apprehensions. I have been asked to present a case study on rural development to a gathering replete with distinguished social scientists and other experts. As a mere engineer and practitioner, you will understand that I feel somewhat inadequate and out of my depth in such a gathering. I have always found myself in the thick of action, always a participant. Never have I had the privilege of being a spectator, watching the action from the sidelines and commenting on it. I take heart, however, in the knowledge that Mrs. Howe and Professor Menon are here to correct my errors of omission and commission.

The case study which I wish to present to you is one that I have titled "Opposition to Change." The change to which I refer was, and is, a rather inoffensive one: an increase in the milk produced in India. Consumed in modest quantities, milk is not dangerous to health, addictive or contributive to immoral behaviour. Yet, from the very outset, there has been opposition to our efforts to increase the production and availability of

milk. It has come from village leaders, from traders, from bureaucrats and technocrats, from politicians, from journalists and academicians, from multinational companies, from within India and from outside. While I would be the first to admit that we may have made some mistake and that we could well have done some things differently and better, it is difficult to comprehend how even the worst of our errors could have attracted the type of vitriolic, persistent and intense criticism it has.

You may pardon me if I suggest that what we have achieved has been significant. I would even be so immodest as to suggest that if you scan the development horizon, you may agree that few other programmes have reached as many and produced such a significant effect. Let me stress that we have not achieved all that we have set out to achieve; and we recognize that there are important problems which must be addressed. Even so, nearly 5.5 million farm-families have come within the ambit of Anand-Pattern cooperatives and I sincerely believe that almost all of them have benefited from their participation. May I therefore suggest, that examining the opposition we have attracted may be instructive for those associated with other activities, whether in India or elsewhere, that seek to achieve success of a similar order. For, paradoxically, it seems to be the successes rather than the failures that engender opposition. So, perhaps our case study will prove informative and useful to others; if only to alert them to some of the unexpected results their successes may produce.

What I propose is to first provide a brief sketch of what we have undertaken for the benefit of those of you who may not be that familiar with the Anand Pattern and Operation Flood. I would then examine some of the opposition we have faced before offering some conclusions for your consideration.

BIRTH OF AMUL

In the 1940s, the colonial government, of what was then known as Bombay Province, became concerned with the fact that many English men and women in Bombay were suffering persistent tummy problems. As

they suspected that milk might be the culprit they called in an expert from England; for in those days expertise was the exclusive prerogative of that country. After studying the subject first hand this expert pronounced that the gutter water of London was bacteriologically superior to the milk of Bombay. It was therefore decided to bring milk from some villages of Kaira district, an area about 400 kilometers north of Bombay, and which was even then known for its milk production. Further, it was deemed appropriate that a private firm should be given monopoly of milk procurement rights in these villages in return for which the firm would supply milk to the government for distribution in Bombay. This firm duly appointed contractors to collect the milk. These gentlemen proved to be wholly unreliable in their collection of milk and, as they constituted a monopoly, they were scarcely inclined to pay a fair or remunerative price to the farmers.

Angered by this state of affairs, the farmers called a strike and refused to supply milk. Political leaders such as Sardar Vallabhbhai Patel, Morarji Desai and Tribhuvandas Patel encouraged the farmers to form a cooperative and assisted them to win the right to also collect milk in the district and to sell it to the government. The cooperative began with an initial collection of just 250 litres of milk per day. This was the beginning of the Kaira District Cooperative Milk Producers' Union, better known today by its trade name of “Amul.”

Today, Amul's more than 375,000 members supply during the flush season nearly 850,000 litres of milk every day. During 1986-87, Amul's turnover was Rs. 1,525 million and its assets stood at Rs 243 million. It manufactures a wide range of products including milk powder, butter, cheese, chocolates and malted beverage. More important, Amul produces and supplies its members with 500 tons of balanced cattle feed every day; it operates a network of veterinary first-aid and artificial insemination centers; mobile dispensaries ensure that emergency veterinary services are available whenever needed. The lessons of cooperation have been sufficiently compelling to have stimulated successful cooperatives in a variety of other areas as well as a unique health service operated by the Tribhuvandas Foundation.

Let me return now to the period when Amul was becoming established and learning to serve its members effectively. During this time, the state governments, supported by various central government programmes, were experimenting with a variety of approaches to dairy development. These included government-sponsored dairy co-operatives, urban dairies and milk colonies. Each of these was considered an answer to India's declining per capita milk production: each in its turn produced impressive numbers of officials and structures and increasing outlays of funds. Unfortunately, the per capita availability of milk which in 1951 had been 132 grams/day, had dropped below 110 grams/day by the mid 1960's. Total milk production had remained virtually stagnant.

It was in 1964 that the late Shri Lal Bahadur Shastri visited Anand. He spent a night in a Kaira district village as the guest of a farmer. During the evening and into the early hours he spoke with the farmers about how they produced their milk, the services provided by their cooperative, their incomes. He talked to poor and rich alike, to farmers of all classes and religions. What the Prime Minister concluded was that the Kaira farmer had no special advantages. The buffaloes of Kaira district were good buffaloes, but not as good as the Murrah of Punjab and Haryana. The agronomic conditions were certainly favourable, but not nearly as favourable as those found in the Indo-Gangetic Plain. The climate was like that of much of India: hot in the summer, cold in the winter. The farmers were decent and hard working, much like the farmers throughout the rest of the country. Therefore, what the Prime Minister concluded was that it was because the farmers owned the dairy, because it was their elected representatives who managed the societies and the district union, and because these elected representatives had the good sense to employ competent professionals to manage their business, it was for these reasons that Amul was sensitive to the farmers and responsive to their demands. And, because Amul served the farmers honestly and competently, it had succeeded.

Having seen first hand the success of Anand, Shri Lal Bahadur Shastri felt that it could and should be replicated through out India. He

therefore decided that the Government of India would create a body whose job would be to "transplant the spirit of Anand in many other places." It was thus that the National Dairy Development Board (NDDB) was created in 1965.

It was one thing to create an institution; it was quite another to implement a programme. It became obvious that if the NDDB was to achieve its intent, it must have its own funds. It was thus that Operation Flood was evolved.

In 1970, the NDDB succeeded in getting the Government of India to approve Operation Flood and to accept its financing through the innovative use of commodities donated through the World Food Programme (WFP). The first phase of Operation Flood aimed to capture a commanding share of the milk market in the four major metropolitan cities of India. These dairies were to be supplied with liquid milk from modern dairies located in rural milksheds, supplemented by skim milk powder and butter oil. The rural dairies helped balance seasonal fluctuations through separation of milk into fat and other solids during the surplus season and storing them for use during the lean. Since 1970, Operation Flood has extended its coverage to half of the districts in India. Some 5.5 million farm-households are members of almost 52,000 societies. The rural dairies created under Operation Flood can handle more than 12 million litres of liquid milk daily. On an average they are receiving close to 10 million litres in the flush season.

What lies behind the statistics is more important and, I believe, more impressive. In India, dairying is primarily an occupation of the poorer segments of our rural population. Of the 5.5 million families participating in Operation Flood, more than one million are landless. Another 3.5 million own less than four hectares of land. About the same number have only one or two milch animals while only about half a million members have more than four.

The success achieved by Operation Flood has resulted in the demand for application of the Anand Pattern to the production, processing

and marketing of other commodities. Today, there are nearly 400,000 members of oilseeds growers' cooperative societies organized on the Anand Pattern. Just recently the first phase of an Anand Pattern project in fruits and vegetables was started. The project will link the producer to the consumer through a cooperative system that includes 200 retail stores in Delhi.

Let me again make it clear that not everything we have done has been a success. We have experienced failures and have learned from them. We will fail again in the future and, I am confident, will learn equally from that experience. We have made mistakes. Some have been corrected; others have proved more difficult to rectify. We continue to try. While India has made significant progress in milk production, it is not all due to Operation Flood; others deserve much credit for their contribution. Much remains to be done; it will be done through the efforts of many people and institutions.

Having provided a foundation, let me return, then, to the "Opposition to Change". I would hope you would agree that the increase of a nation's milk supply is a relatively benign activity. If it had been otherwise, increasing numbers of producers would not have voluntarily joined Anand-Pattern cooperatives; increasing numbers of consumers would not be purchasing the products of these cooperatives. India is a free country and no one can be compelled to join a particular organization, to market through a particular buyer, or to buy from a particular seller.

But despite the inoffensive nature of the change we seek, and despite the widespread acceptance it has achieved, there has been and is, opposition. That opposition has been strenuous, vigorous and even violent. It has been persistent and occasionally pernicious. And it has come from some of the most unexpected quarters as well as from those whom we would expect to complain. Some of our officers have been killed, some violently attacked, our cooperative oil mill has been set on fire seven times.

THE VILLAGE

The first place where the Anand Pattern has attracted opposition is in the village. Cooperatives are not new to our Indian villages. They date to the colonial era and before. Today, there are tens of thousands of cooperatives in our villages, the majority of which exist in peaceful co-existence with all and sundry. Yet, our dairy cooperatives have not always found a warm welcome. A few years ago, the dairy farmers of Gujarat produced a full-length feature film, *Manthan*, which was directed by one of our finest directors, Mr. Shyam Benegal, and which featured some of our best actors and actresses. I mention this not, however, because it is a very good film, but because it tells the story of the type of opposition Anand-Pattern co-operatives have found in our villages. In *Manthan* -- and in reality -- traders and village political leaders and even some cooperative officials — at least those with limited vision — have opposed the establishment of dairy, oilseed and other Anand-Pattern cooperatives.

The opposition of traders can be expected: before the establishment of a society, they often operate without any real competition. The price they pay is the only price the village knows. The cooperative pays a fair and remunerative price and takes the producers' milk year-round. Transactions are recorded in a passbook; weighing and testing of milk are done openly and with equipment that the farmer can see. It is not surprising then, that the trader who has cheated and exploited the producer, hates to see this type of competition.

There is sometimes a deeper opposition in the villages though, and that comes from the village leadership. Anand-Pattern cooperatives are run by the producers themselves. All members are equal. Think for a moment of what happens when a Harijan not only stands in the same line as the Brahmin but stands in front of the Brahmin because he came first. And, what does the Brahmin learn when he stands in the same line as the Harijan, and behind the Harijan because he arrived after him? What about women standing ahead of men? Does this not teach a lesson in fundamental equality at our grassroots? And, when our Anand-Pattern cooperative members find that their leadership is not serving them well, they can — and do — vote them out. Is this, too, not a lesson in

democracy which will be applied in other elections? Perhaps, then, it is for these reasons that our Anand-Pattern cooperatives have attracted opposition from leaders in the villages of India.

THE BUREAUCRAT AND THE TECHNOCRAT

After he had visited Anand in 1964, Shri Lal Bahadur Shastri wrote to the chief ministers of our States, "We envisage a large programme of cooperative dairies during the Fourth Plan and this will, no doubt, be based on the Anand model." Although the response from the chief ministers was enthusiastic, we soon found that their officials were somewhat less enthusiastic. Although, today, we find some officials who are among our strongest supporters, we also find those who still vigorously oppose the Anand Pattern.

Until Operation Flood began, most of India's dairies and dairy programmes were run by government departments and agencies. If a dairy lost money, there was a subvention from the government to cover that loss. If extension and veterinary programmes failed to reach the farmer, there was certainly no group strong enough to complain. What the NDDB had proposed was that these officials work for the farmers and not for the government. I can tell you from years of experience that the farmer is a much more demanding employer than the government. Once the farmer knows that you are managing his organisation and his money, he is simply not going to allow you to go on losing money in an inefficient dairy operation — not when it is his plant and his loss! And, once the farmer knows that you are working for him, he is not going to sit quietly if you don't send a veterinarian to care for his sick buffalo; or if you fail to send feed on time; or if his buffalo fails to conceive from your artificial insemination. It is, therefore, not surprising that the bureaucrats and technocrats felt uneasy at the idea of working for the farmer and, that too, without the exchequer to compensate for any inefficiency, ineptitude or misuse of funds.

There is another aspect to this problem. Many years ago the British colonial government though that cooperatives might help to solve the

problems of the farmer. But they didn't trust us Indians with the money and other resources involved. So, they created a Registrar of Cooperatives. This Registrar, almost invariably a British officer, was vested with considerable powers with respect to the affairs of a cooperative. He could create, change the bye-laws, supersede the board, or liquidate the cooperative all by the stroke of a pen.

One would have thought that, with Independence, we would dispense with such institutions which were alien to our culture and to our genius. Regrettably, while political power was transferred, the approach to cooperation remained the same. While the numbers of cooperatives multiplied, our leaders and officials paid scant heed to Mahatma Gandhi's words, "Cooperation, which is rooted in the soil, always succeeds." Rather, many Registrars of Cooperatives and their departments have seen it as their duty to uproot cooperatives that have sprung from our native soil; instead they have sought to spread cooperatives merely as extensions of government departments, firmly rooted in the bureaucracy, a soil in which they may exist, but where they will never flourish. We have sought, and fought, to protect Anand-Pattern cooperatives from arbitrary and unreasonable restriction and regulations. Where democratic elections have been resisted, we have not rested until they were held. Perhaps for these reasons we have engendered opposition.

Our bureaucrats and our technocrats also comprise a portion of our so-called elite. It is an unfortunate characteristic of this elite that they think little of those outside their limited circle. And so, I expect, the bureaucrat is skeptical about the ability of the farmers of India to take decisions. Because the bureaucrat works for a government, and not for the farmer, he has not had the opportunity to learn that the unlettered villager is often the wisest of men. We have, therefore, found it necessary to battle against the arrogance of those who decry the ability of our nation’s farmers to take decisions about the resources that they produce. It is not unlikely that in doing so, we have created opposition to a change which places the power of decision-making in the hands of those farmers.

THE POLITICIANS

When we began, we thought that our politicians would support Operation Flood as, indeed, many have. After all, if we assist large number of voters to achieve a better life for themselves, it should benefit the politicians. But, it seems, we made one small mistake. When we developed model bye-laws, we insisted that the elected office bearers of the cooperatives be genuine milk producers and that they do a specified amount of business with their cooperative. Only office bearers of the primary cooperatives are eligible for election to the district unions and the state federations. Now, someone who spends all his time in a state capital or in Delhi is more or less excluded from holding office. It was our view, possibly naive, that a legislator has the responsibility for charting the course of the state or the nation, and therefore should not have to worry about the details of running a cooperative. This, however, differs from the contemporary view and would seem to have stimulated some opposition amongst those of our political brethren who feel excluded from the Anand-Pattern cooperatives.

ACADEMICIANS

Someone once opined that the social scientist is someone who lacks the courage to participate and wishes to sit on the sidelines and pontificate. As I suspect that there may be a fair sprinkling of social scientists in this gathering, I shall withhold my endorsement of this judgment. In fact, I would go so far as to say that many academicians are motivated by genuinely laudable objectives: a concern for the well-being of the poor; support for the sound economic development of the Third World; opposition to such unscrupulous practices as dumping of unwanted surpluses and creation of dependencies.

Unfortunately, it is one thing to wield a pen; it is quite another to feed a cow. Our elitist society gives far greater importance to those who wield the pen — and that too in English — than to those who feed the cow, despite the fact that the latter require an equal or greater competence and courage. What is therefore regrettable is that our own academicians, and those from other parts of the world, have too often not maintained the

humility and objectivity necessary if one is to avoid assuming that one's own values are superior to those of others.

I find that we agree — even whole-heartedly — with many of the concerns expressed by the national and international academic community. Where I depart is when they attempt to measure the achievements of Operation Flood against their own preconceived notions of what should be achieved by the programme.

I also depart from those purportedly academic studies which blend fact, opinion and pure fiction into a composite image of Operation Flood as an anti-development programme that serves the interests of a privileged few; or one which exploits women; or which denies opportunity to tribals; or which is detrimental to India's national self-sufficiency in dairy products.

I would be the last to suggest that all academic criticisms are unjustified. Quite to the contrary, some have been well-directed and well-supported by verifiable evidence. We have welcomed such criticisms and have tried to incorporate them in our programme so as to benefit from the insights contained. We will continue not only to accept, but to seek such constructive criticisms.

What we do not accept, however, is the type of “academic” criticism which begins from the conclusion that the Anand Pattern is bad and which then marshals evidence — real and imaginary — in the attempt to prove that conclusion. In this regard we have benefited from the exhaustive and exhausting publications of the Institute of Social Studies at the Hague. Is it not at least modestly surprising that in the volumes of studies on Operation Flood done under the aegis of that Institute, there is not a single paper, or a single observation suggesting even the remotest possibility that Operation Flood may have conceded one or two benefits to a few poor farmers? Is it not equally amusing that this group has yet to raise questions about other development programmes, some of which may be notoriously ineffective and even corrupt?

We cannot help but notice that while Operation Flood is criticized on the ground that it would make India dependent on imports, notice is not taken of the fact that India’s imports are less than half-a-percent of its milk production, and that all the dairy products on the shelves of the shops of India are made in India from Indian milk. If this is compared with the situation of our neighbours — Sri Lanka, Pakistan, Bangladesh — India's achievements in dairying stand out. The Philippines, as another example, imports 98 per cent of the milk it consumes, and yet the Institute of Social Studies and Development Studies is silent. India imports some 1.5 million tons of vegetable oil a year — nearly one-third our consumption — and yet we hear no criticism from Europe or Canada. China has adapted our Operation Flood after sending three delegation to Anand and having two of our delegations visit them and we hear of no comments from The Hague.

We can therefore only assume that India's progress in dairying in upsetting the commercial interest in dairying of developed countries particularly, as we have been informed by the FAO, some 86 countries of Asia, Africa and Latin America want to follow the Anand Pattern. In this connection, I might mention that one of the finest compliments paid to Operation Flood was by Pakistan, when it invited the World Bank to mount a dairy mission to that country and further asked that Kurien of India should lead the mission.

CHARITIES

One group which has taken upon itself the task of opposing the change sought by Operation Flood is a body of charitable agencies and non-governmental organizations, both in India and abroad. A while back, a European church group went to the extent of inviting and paying the expenses of Indian critics of Operation Flood is ensure their participation in a seminar -- not on Christianity -- but on Operation Flood. As far as we know, they did not offer to pay the expenses of any Anand Pattern cooperative members or other supporters. So here too, amongst organizations which profess the goal of helping the poor, we find we have attracted opposition, just possibly because we compete for the commodity

resources that they believe should be their prerogative to control and dispense.

They have floated the theory that government-to-government food aid is bad. It leads to support of governments that are best allowed to fall, it leads to misuse of aid, does not reach those for whom it is meant, and leads to corruption. Operation Flood happened to be the largest government-to-government food aid project in the world and must therefore be criticized to lend support to their theory.

It is good that those individuals and countries who have more food than is good for them should give it to the hungry. It is good for our souls. Reducing food production in a world which has a large starving population is bad. It would debase our souls. May be some institute of social studies should look into this. But let us recognize the fact that feeding the Horn of Africa for so many years has not removed hunger there. On the contrary, a case can be made that it has worsened the problem. Giving food to the hungry can, at best, alleviate hunger while the aid continues. But does not attack the causes of hunger. I would therefore rather advocate that food aid is used less for alleviating hunger and more as an instrument of development of the same food in the country to which it is donated. This is exactly what Operation Flood does.

Operation Flood was evolved by us in 1968 because we realized that dairy surpluses were accumulating in Europe and America and this would become a threat to dairy development in India. Some kindly European gentleman was bound to conclude that since public opinion in his own country would not allow him to destroy good food when many in the world are starving, he would have to give it away to reduce his storage charges. How then could he ignore a country like India of 700 million, where millions are underfed? So he was obliged to turn up in Delhi and offer the surplus as a gift to India and our wise men here would have grabbed this offer and mounted vast give away programmes for milk. Once started, such programmes cannot be stopped and the country would have become more and more dependent on imports — commercially, once the gifts stopped. And, gifts <u>will</u> always stop once the surplus disappears.

What is worse, such free or subsidized distribution of milk would have depressed the price of milk and dampened any attempt we might have made to stimulate production. This is why we at the Dairy Board were worried. We got some of the best brains in the country together to discuss whether this threat could be converted into an opportunity. We explored whether this surplus could be used to fund dairy development. This was Operation Flood. The World Food Programme which donated the dairy commodities, had decided to call the programme "WFP-348" or some other number. We did not like that very much, so we called it India's Operation Flood.

Such a programme will thus not be liked by the non-governmental agencies, which are proliferating all over the developing world. It will also not be liked by Christian missionaries who feel that, but for Operation Flood, they would have received more loaves and fish to distribute, and could therefore have saved more souls.

JOURNALISTS

Someone once said that reports of a beautiful day don't sell newspapers. Perhaps this is why criticism of Operation Flood seems to have become a growth industry for India's journalists. Unfortunately, much that has appeared has been based on false premises, half-truths and wild distortion. At one point we found it necessary to complain to the Press Council of India, lest this type of dishonest reporting dishearten thousands of Anand-Pattern cooperative workers in the country. It is satisfying to note that our complaint was found to be justified and the offending publication was required to print an apology. Subsequently, a high-level committee appointed by the Government of India examined the criticisms that were appearing in the press and found them to be virtually without substance.

PRIVATE CORPORATIONS

More recently, a new opponent to the Anand Pattern has emerged, or, should I say, has come out of the closet: the corporations involved in processing and marketing of dairy commodities and edible oils.

The charge raised recently has been that Operation Flood is unfair to the private sector corporations which operate in the dairy sector. It is possibly coincidental -- but somewhat unusual -- that a similar argument was presented to the World Bank in a petition from a federation of Indian businessmen requesting that the World Bank refuse finance to Operation Flood III -- a view, it is understood that was also presented to the World Bank by the development agency of at least one donor country.

It would seem that the complaint of the multinationals in India is that cooperatives restrict their ability to compete. They don't seem to have any objection to the traditional milk trade which continues to dominate the business. It is the cooperatives which provide inputs and services, which supply the fluid milk to our cities, and which pay the farmer a fair and remunerative price for his milk that they feel are inhibiting competition.

It is well to remember that it was the cooperative at Anand that pioneered the manufacture of milk powder from buffalo milk for the first time when internationally famous experts from several countries opined that it was not technically feasible. When a multinational company was asked to produce condensed milk in India, instead of importing it, they said they could not do so if it was to be entrusted to their native employees as it was too complicated and difficult a product to manufacture. The Government of India had therefore to ask the cooperative to pioneer manufacture of this product, and when this was done at Anand and imports banned, the multinational company pleaded for permission to set up a plant in India and agreed to let the “natives” run it. When another multinational refused to manufacture baby food in India instead of importing it, again it was the cooperative dairy at Anand that was asked by the government to initiate its manufacture, forcing the multinationals to follow. And, when yet another multinational which made malted milk food in India declared a dividend of 90 per cent in the second

year of their operation, 100 per cent dividend in the third year and 110 per cent dividend in the fourth year, it was again the cooperative that was asked to discipline them.

India is a large country. There is plenty of room for competition and our only request is that it be a fair competition. It is not fair for a cooperative to bear the costs of providing fed at cost, if it cannot procure the increased milk that results; it is not fair if a cooperative provides veterinary cover and the milk from the healthy animal is purchased by a milk contractor; it is not fair if the cooperative provides 70 per cent of its milk for sale in the cities and must compete with a firm that produces only higher priced value-added products.

These rules for fair competition are not seen as fair by the private corporations -- multinational and Indian — that operate in the dairy sector. Therefore, we find that they, too, are opposing change.

WHAT UNDERLIES THE OPPOSITION TO CHANGE

I have spoken about the various types and sources of the opposition that the Anand Pattern and Operation Flood have attracted. In the beginning, the major source of opposition was in the village and from the bureaucrats who were affected when cooperatives became the owners of dairies and the providers of services. It was clear that the opposition occurred because long-standing patterns of operation and behaviour were being challenged. Vested interests were upset because of these changes.

Similarly, when there has been political opposition to Operation Flood, it has been because the Anand Pattern did not accommodate the interest of political personages whose objective was to use cooperatives as a means to other ends. We are fortunate that this opposition has been substantially offset by more enlightened leadership that has a sustaining long-term vision of the contribution of cooperation to our national development.

The opposition we encounter from our intellectual elite is perhaps more troubling and less understandable than that from the village leadership or from our politicians. In part it may be due to the inherent intellectual arrogance of an elite which finds it disconcerting that a villager can be entrusted with the responsibility of managing his own affairs. Whatever the ideology, the intellectual often assumes that his views are inherently superior and that they should take precedence over those of the pastoral masses. One is reminded of Tolstoy's remark: "I sit on a man's back, choking him and making him carry me, and yet assure myself and others that I am very sorry for him and wish to lighten his load by all possible means -- except by getting off his back". This all too accurately characterizes the attitude of some our own intellectual elite towards our farmers.

I regret that I find some of the same arrogance in the international academic community. Would it not be presumptuous for an Indian to suggest that, despite its millions of cooperative members, Canada's cooperative structures are inappropriate to the needs of its people. Yet this, precisely, is what some members of the international academic community have said with respect to Operation Flood and the Anand Pattern. They say this despite the fact that year after year there are marked increases in memberships, in supply of milk to the cooperatives and in other measures of voluntary participation. I fear, perhaps, the international academician may occasionally suffer from the same ills as are displayed by our own intellectual elite towards the rural Indian.

It is a matter of great concern to me that we have attracted the opposition of the multinationals and other firms involved in the dairy and oilseed sectors. No matter how successful we have been, we cannot begin to match the financial strength and resources of these firms. I can assure you, however, that we will not bend in the face of their threat. We will continue to insist that if they wish to compete, they must do so on an even playing field, not one tilted to their advantage.

In the last analysis, it can only be a source of satisfaction to us that opposition to change only results when there is change. Had we not

achieved some measure of success, there would have been no opposition. So the fact — and the quantum — of opposition is, to some extent, a tribute to our effort. I must admit, though, a pat on the back is far more welcome than a kick directed at other parts of the anatomy.

I also take some consolation from the fact that today, we more often find a welcome and even an invitation from village leadership than we do antagonism and opposition. Similarly, many of the bureaucrats who once opposed us are now counted among our staunchest supporters. Such opposition has declined over time -- not because the local leaders or the bureaucrats were defeated, but largely through a process of education and experience. Local leaders learned that democracy at the grass-roots is not a bad thing; bureaucrats and technocrats learned that farmer-members can be fair and responsible owners, and that government structures, their rules and regulations are not suitable for dairy plants.

One can hope that, over a period of time, some of the more strident and less-informed opposition we find among the academicians and journalists will also diminish with experience and education. However, at the same time, were there to be no opposition to change, I, for one, would be concerned that we were no longer pursuing the correct course. Similarly, were there no criticisms, I would fear that we would become self-satisfied and lose the will to learn and improve.

Perhaps, then the lesson is that change -- successful change -- will produce conflicts and will almost invariably produce opposition. In some instances that opposition will arise from fear of the unknown, from the disturbance in the social and political equilibrium. In other instances, it will engender opposition because it threatens vested interests that stand to lose from the competition resulting from change. In still other cases, opposition will arise out of envy, out of jealousies, out of the unfortunate human propensity to attach that which is successful. Those who attempt to promote change must be prepared for such opposition. Even more so, they must be prepared to carefully distinguish between opposition which is inspired by base motives, and that which is well-intentioned. The former must be defended against, with vigour and courage. The latter

must be heard and responded to, with care and concern. I am here because of this belief.

Thank you.

Second World Buffalo Congress

Experience in Dairy Development in India through Operation Flood

New Delhi, December 12, 1988

I am greatly honoured to have been invited to say a few words on the occasion of the Second World Buffalo Congress. I feel a little out of place in this gathering of animal scientists from all over the world as I am only an engineer by training and a manager by profession, and if I have been asked to speak today it can only be because for the past forty years I have been an employee of milk producers and have gained some experience in managing dairy development programmes in India. I am of course referring to the Amul Cooperative Dairy and Operation Flood. Over these four decades I have come to realize that the over-riding concern of the development administrator should be to create an environment conducive to development, an environment wherein scientists and technocrats can deploy their skills and their knowledge to contribute to the processes of development, but where it is unequivocally clear that ultimately it is the farmer who will increase agricultural production.

When I went to Anand some forty years ago, Kaira District was already the most important milk producing district in India. All the milk produced in the district was produced by buffaloes of the Surti breed. The first problem I ran into was that the political leadership, and in fact the Government of India, did not take kindly to buffaloes though the people in Gujarat and in Bombay preferred to drink buffalo milk. I was accused of trying to develop the buffalo as if this were an anti-national activity. Anand was looked down upon not so much because it was a cooperative, but because its milk was that of buffaloes. Indian leaders, beginning with Mahatma Gandhi, had always maintained that cows were superior to buffaloes. It was said that the cow was a more economic producer of milk; cow's milk had better nutritional qualities. Some even claimed that cow's manure and urine were superior to that of buffaloes and, indeed, it was argued that cow meat was superior to buffalo meat. What was expected was that the buffalo should be replaced by the cow. In fact I believe

during the last forty years of our independence there has never been any worthwhile scientific work done on buffaloes to make them better producers of milk. We can attribute this to the sentiment that the cow was a holy animal whereas the buffalo was not. While all the cows are sanctified by all the Gods, the buffalo was the vehicle of the God of death. To make matters, worse the western countries did not have any buffaloes and their experts were of the opinion that buffaloes were not suitable animals for milk production. They insisted that India should develop the cow. They also advised that the best way to develop the Indian cow was to cross it with European cows. Most of the work done in India in the field of animal husbandry over the past four decades, therefore, was done on cows and that too by cross breeding with European breeds.

It is only recently that a point of view is emerging that the Indian cow is not after all a bad animal: that it has great genetic potential. If one were to look at the photograph of the Jersey cow taken when photography was invented some 150 years ago, the Jersey of those days looked like the Indian cows of today. By careful and systematic breeding, conducted with scientific care, the Jersey was developed into the efficient milk producer that she is today.

In India, surely we must have had a thousand years ago some of the finest milk producers in the world in the ancestors of our Rathi, Red Sindhi, Gir and Tharparkar. But since we did not breed or feed them properly, we allowed our breeds to deteriorate. Also, for the Indian farmer a good cow was the one that gave him the best pair of bullocks, and so they bred the cow for draft and not for milk. Some students of the Hindu religion have maintained that thousands of years ago the killing of cows was permitted but that, over time, as useful animals were also getting killed, cow slaughter was prohibited. The ban on cow slaughter thus got sanctified by religion. As a result of this, scientific culling of our herds became impossible. The end result was that our cows deteriorated and became very poor producers of milk. Even so one can see here and there some Indian cows that will give as much milk as a Jersey would, proving that the genetic potential is there, waiting to be fully developed.

There has never been any question in the farmers' mind as to what a good buffalo was. It was an animal that gave the most milk. The male buffalo is not used for draft. Thus the buffalo was bred in the farmers' own imperfect way for producing more milk. Even today we have buffaloes in India in reasonable numbers that would produce 20 to 30 litres of milk per day at the peak yield. Fifty-five per cent of the milk in India is in fact produced by buffaloes even today. Where buffaloes have been maintained properly, fed properly and some reasonable breeding facilities provided, they immediately respond by producing more and more milk. It is good therefore that a World Buffalo Congress is being held in India and I am quite sure that this conference will help India take a greater interest in developing its very large buffalo population. What is in fact required is that our scientists should tell us how our well-established breeds of buffaloes should be developed to their fullest potential. Even if it were to take fifty years it is worth doing. I am not suggesting that you should stop the work on cows. What I am suggesting is that we should work on the buffalo also.

I am one of these who firmly believe that if milk production is to increase, we must first make milk production a profitable activity for the farmer who produces milk. No farmer will take interest in producing milk unless he can make money out of it. Therefore when a country starts its dairy development programme it is essential first to ensure that the farmer obtains an assured market and a good price. Therefore when we evolved Operation Flood, the main emphasis was placed on marketing. We took a district that had a certain intensity of production of milk and linked it to a metropolitan market, say some 200 miles away. To ensure that the farmers' milk was collected throughout the year, we also set up a milk product manufacturing capacity in the milk shed; that is, capacity to manufacture milk powder and butter in addition to processing milk for the city market. However, to ensure that the farmer obtained the largest share of the consumers' rupee we placed our faith in the cooperative system so that the profits of procuring, processing and marketing of milk also went to the farmers who owned the dairy plant. To ensure that the farmers could manage these complex operations we encouraged cooperatives -- which had a Board of Directors composed of the farmers'

elected representatives -- to employ professional managers and technically qualified persons to manage their dairy plants and to provide the farmers with inputs such as better feed, artificial insemination, fodder etc. To generate funds for dairy development and to help evolve better marketing systems, we obtained a gift of surplus butter oil and milk powder — first from the world Food Programme and later from the European Economic Community so that we could not only market the milk that was collected from the farmers, but also use the gifted commodities to make additional milk to capture a greater share of our urban markets.

The very fact that we captured greater market shares in the cities ensured that additional milk became available to be picked up by the milk cooperatives, as the milk merchants lost their control over the city milk market and thus had to go out of business.

You will thus see that Operation Flood placed its emphasis on marketing and on deploying the biggest asset of India -- the power of its people — rather than erecting government bureaucracies. Over seventy per cent of our population are farmers and, combining their power with professionals, gave this power direction and thrust. Today under Operation Flood some 5.5 million farmers have organized themselves into 56,000 village milk producers cooperative societies. These societies are federated into 176 district cooperative unions owning processing and marketing facilities. All the district unions in a state federate into a state federation, so that they can jointly market their products. At the national level there is a National Cooperative Dairy Federation of India that markets milk products on behalf of state federations as well as representing the interests of milk producers and their cooperatives.

The principal cities in India -- Delhi, Bombay, Calcutta and Madras -- are linked by a national milk grid which also serves more than 500 smaller cities and towns. Some ten million litres of milk flows through this national grid every day. Over 10,000 million rupees a year are earned by the farmers for the milk they produce. It is indeed a very vast network, one that has created the stable and remunerative market that is needed to stimulate production. That it has succeeded is evident from the fact that the milk production of India over the last fifteen years has increased from

22 million toned to 45 million tons and the per head consumption has increased from 107 to 163 grams.

Is that all? True development is the development of man, not of cows or buffaloes; and you cannot develop man unless you involve him in the processes of development — unless you place in his hands the instruments of development. Democracy does not have much meaning if it is confined to Delhi but becomes meaningful when it is underpinned with democratic institutions like cooperatives right down to the village level.

However, to make a success of Operation Flood it was necessary to ensure that our Government's policies in all the ministries concerned were supportive. One of the most important decisions that our Government made was to ensure that all milk powder and butter imported into India were imported only through the National Dairy Development Board, which was the body entrusted with the responsibility to stimulate milk production. If, as in many other developing countries, free imports of milk powder were to be permitted, and that too through traders, the implications are quite clear. Our farmers, with their less efficient animals under their adverse agro-climatic conditions and their constraints on availability of good feed and fodder, would have to compete with the farmers of New Zealand with their Holsteins, with their vast availability of fodder and feeds, and with their low density of population. In such a competition, farmers of a developing country cannot win in the short-term. They will perish. Therefore one of the first conditions necessary to develop dairying is to ensure that our farmers are protected from unfair competition.

We are also aware of the heavy subsidies that developed countries' farmers obtain from their governments in producing agriculture commodities. If we are not prepared to protect our markets, then we may as well hand over our markets to advanced dairying countries and stop all our efforts to develop domestic production of milk. I note that we do have some international organizations such as GATT to see that no country indulges in unfair competition in trade, but Mr. GATT was not to be seen when advanced countries were dumping their agricultural surpluses in

developing countries. We have not heard Mr. GATT say a word against advanced countries subsidizing their agriculture exports. Now that we have learned how to develop dairying in our country, we do hear of Mr. GATT, as one who wants the developing countries to lower their tariff barriers. I must quite bluntly state that as long as I can influence my Government's policies, I will ensure that our farmers are protected by tariff barriers wherever necessary, GATT or no GATT. Let GATT first get the advanced countries to abolish the many ways in which they subsidize their agriculture. Then it may be fair to talk about our tariff barriers.

Thanks to our Government's policy of canalizing the imports of milk powder and butter through the NDDB and thanks to our policy of using gift commodities not to expand the market but to finance internal production, India has successfully developed its dairy industry to a point where it has become the third largest milk producing country in the world. I believe that if we now begin to work on improving our buffalo herds and use the latest techniques available for feeding and breeding, then even more rapid progress in dairying could become possible.

I am sure that this conference being held in India would be a great help to India in learning from our neighbouring countries as to how we should go about developing the milk production of our buffaloes. There is point of view, to which I subscribe, that if the buffalo is taken care of properly, we may find out that the buffalo will emerge as a more suitable animal for milk production in India than the imported Holstein — even though it may take some 50 years.

Thank you.

Section 3
A Dream Renewed

The selection of Dr. Kurien as the third World Food Prize laureate marks the beginning of a third phase in his life, a phase reflected in his speeches.

In the World Food Prize Acceptance Address, Dr. Kurien sets the agenda for the years that follow. He draws attention to the increasing pressures of North on South, of the agriculturally and industrially advanced nations on the third world. He examines the role of the international financial institutions, GATT, and other international and bilateral agencies in promoting development that even the nations of the North would reject. He signals the dangers of accepting the dictates of those who would continue to consume vast resources while preaching the virtues of "appropriate technology" and concern with the environment to the rest of the world.

At home, during the 1980s Dr. Kurien increasingly focused on State and Central Government Cooperative Acts as obstacles to genuine cooperation. This was a theme that he continued to pursue aggressively, educating audiences of cooperators as well as the public about the importance of ending the interference of the state in a people's movement. The message becomes more and more urgent as the new economic policies begin to tilt the playing field in favour of the large business houses and multinationals. While urging the enactment of liberal laws for cooperatives, Dr. Kurien also continued to remind cooperative leaders that they had often fallen short of the expectations of their members and that to deserve good laws they had to become good leaders.

During the late 1980s and early 1990s, the NDDB became involved in a modest Market Intervention Operation, an extraordinarily successful attempt to draw farmer investment into oilseeds by ensuring remunerative and stable prices. In his earlier speeches on the oil sector, Dr. Kurien had drawn attention to the need for a coherent policy in oilseeds and edible oil and had predicted that if adopted, such policies would lead India from its status as the world's largest importer to self-sufficiency. Dr. Kurien's satisfaction at the initial success of the integrated policy on oilseeds and edible oil was followed by disappointment when Government, under increasing pressure from the international financial institutions and vested interests within the country began to dismantle the very policies that had brought the country to the brink of self-reliance.

Another battle was over the delicensing of the dairy sector. Earlier governments, recognizing the critical role played by cooperatives in carrying out many of the responsibilities of the state — veterinary care, artificial insemination, and even ensuring fluid milk supplies to urban areas — had protected cooperatives from competition within milksheds where they were established. This policy, too, was reversed. Attempts to recover the status quo ante by introduction of a Milk and Milk Products Order — a common feature in most advanced dairying nations — have been frustrated by bureaucratic intransigence and fierce opposition from multinationals, business houses and the international financial institutions.

Concerned with the sharp shift in policies from the fundamental commitment to equity that was the foundation of free India, in his later speeches, Dr. Kurien increasingly draws attention to the fallacies inherent in a commitment to a "market-driven" economy. He eloquently argues that the market does not allocate resources to the poor, the weak, the ill and the uneducated and is clear that concerns for justice, fair play and concern for the disadvantaged are characteristics of any humane society.

Throughout, Dr. Kurien continues to argue that development — genuine development — occurs only when the instruments of development are in the hands of those who stand to benefit. In his speeches to international audiences, whether in Washington at the World Food Prize award ceremony, in Canada speaking to food industry groups, or in Australia talking to the International Dairy Congress, Dr. Kurien urges his colleagues to use their enormous productive capacity to help build the dairy industries of the South. His dream is a collaboration between North and South, between dairymen and their cooperatives, helping to build the dairy industries of Africa, Asia and Latin America. Just as Operation Flood has brought a better life to millions of Indian women and men, so too a far greater Operation Worldwide Flood can help tens of millions of dairy farmers throughout the world.

And so, the dream remains unfinished and will remain so while the dreamer continues to dream of a better world and a better life for the men and women who produce the world's food, fibre and forests.

Remarks at the Delhi news conference announcing Dr. Kurien's selection as The Third World Food Prize Laureate

New Delhi
June 6, 1989

I am greatly honoured and delighted to know that an eminent international jury, headed by Prof. Norman Borlaug, the Nobel Laureate, has selected me for the award of the 1989 World Food Prize. This is the most prestigious of all the awards in the field of agriculture and food.

I am aware that in selecting me, the jury is not recognizing so much any personal contribution that I may have made in the field of food and agriculture as it is recognizing the valiant efforts of the six million farmers and their families covered under Operation Flood to increase milk production in India. These six million farmers have organized themselves into 60,000 village milk producers' cooperative societies and some 160 cooperative unions, each having its own dairy processing plant. Among them, these unions handle some ten million litres of milk a day. Milk production in India, which had remained more or less static at about 21 million tons per annum during the 1950s and 1960s, has rapidly increased to some 46 million tons since 1970, the year Operation Flood was initiated. The per capita availability of milk, which had declined since Independence and had reached a low of 107 grams per day in 1970, has now risen to 160 grams per day.

India, which once imported milk powder, butter, condensed milk, baby milk food and other dairy products, has stopped commercial imports since 1976. All the milk products found in the shops of India are produced in India from Indian milk. India's performance in dairying has been particularly significant when compared with that of its neighbouring countries.

I would like to think, however, that what this award recognizes is not so much the increase in the milk production that has been achieved under Operation Flood as the structure through which such an increase has been brought about. Shri Lal Bahadur set up the National Dairy Development Board (NDDB), in 1965 and invited me to be its Chairman in order to replicate the cooperative structure of Anand.

The Anand Pattern really means that the dairies are owned by the farmers, and not by the government; that these dairies are managed by employees of farmers, not by bureaucrats deputed by government; and they are managed in such a manner as to be sensitive to the needs of farmers and responsive to their demands. Also, the Anand Pattern recognizes that the privilege of collecting the farmer's milk must carry with it the responsibility to help the farmer increase his production by improving the productivity of his cows and buffaloes; by providing the necessary inputs such as breeding facilities, feeds, veterinary health cover, extension services, etc.; all of which is to be provided by the veterinarians and extension workers employed by the farmers themselves. It is to implement such a programme that we obtained the generous assistance of the World Food Programme of the United Nations Organisation and from the EEC by way of donation of the dairy commodities, and from the World Bank by way of soft loans. Operation Flood is the largest agricultural development programme in the world and this was made possible by the generous assistance amounting to about Rs. 20,000 million that we have received. In naming me today, the contributions of all those multinational and bilateral assistance agencies that this project has received in such a generous measure and, above all, the support this project has enjoyed from the Government of India, particularly the Ministry of Agriculture, are being recognized.

The importance of the cooperative structure lies in the fact that it is a democratic structure that underpins our democracy at Delhi, and at the state capitals, right down to our village levels, teaching our rural people the value of their vote and the importance of a democratic structure. This structure recognizes that the biggest asset of India is its people, that true development becomes possible only if one learns to deploy this asset. If

one can combine our farmers' power with professional management, which people like me represent, then this power will assume some direction and thrust.

True development is the development of man and not of cows, and the only way to develop man is to involve him in the processes of development and to place in his hands the instruments of development. The only way to make our people responsible is to give them the responsibility of managing their own affairs. We must learn to reduce the profile of government in developmental activities and increase the involvement of our people. Only then will we be creating in our vast rural sector a plurality of democratic structures through which rural leadership can develop and assert itself, ending our present total dependence on political structures and legislative processes for the emergence of our future leaders.

I would like to think that in selecting me for the award of the 1989 World Food Prize, it is these larger dimensions of development that are being recognised and this award is therefore not so much a recognition of any contribution I may have made personally as it is a recognition of the efforts of our farmers; first in Dairy Development, and then in Oilseeds, then Fruits and Vegetables, etc. What is being recognised is the emergence of the Indian farmer as a powerful force and his capacity to bring about true development in India.

Thank you.

Acceptance Speech of V Kurien
on the Occasion of the Presentation of
the World Food Prize

Ladies and Gentlemen,

I am deeply honoured to be the recipient of the third World Food Prize, an award distinguished by its inspiration, Dr. Norman Borlaug.

The honour is further enhanced by my joining the company of such accomplished scientists as Dr. M.S. Swaminathan and Dr. Robert F. Chandler, Jr. Let me warn you that you cannot expect from me -- a milkman from a little town -- the erudition and eloquence of my predecessors. Let me also share my fear that this prize for past achievements will only serve to set even greater standards for the future. If we are to live in a world without hunger, we face a challenge of such importance and magnitude that when our meagre abilities are measured against it, we must all stand humbled before such an awesome task.

As gratifying as it is personally to receive such an award, the World Food Prize recognizes not so much what I may have accomplished as an individual, but the achievements of so many who have contributed to the work with which I have been privileged to be associated.

When I first came to Anand many years ago, I was inspired and guided by several Gandhian leaders -- men of great ability, integrity and commitment to a cause. One of these men, Mr. Tribhuvandas K. Patel, devoted the greater part of his life to building the dairy cooperatives of Kaira District. To him, my country, our farmers and I owe a great deal. He was my "Guru".

The officers of the institutions where I have worked, and which I have been fortunate enough to serve, have been men and women of courage, of ability and integrity. Many have sacrificed more lucrative careers to work with our farmers. Some have even sacrificed their lives for their beliefs. This award recognizes all that they have given.

Our work has received support from several international and national aid agencies. This has come in the form of commodities, financing and a shared belief in our vision. They have helped make our achievements possible.

Over the last forty years, I have also been privileged to have received total support at the highest level of my government, and particularly that of our Prime Ministers.

I would not be standing before you today had it not been for the support and encouragement I have always received from my wife. A husband who works in a small town as an employee of farmers is considered neither fashionable nor prestigious. She has shared my commitment with unflagging courage and grace.

Above all, this award recognizes the Indian farmer whose courage in the face of adversity, whose skill as a farmer, and whose wisdom as a human being has transformed dairying in India. Our farmers have proved that, given command over the resources they create, they can and will produce miracles. The remarks I make today are an attempt to speak to you on behalf of more than six million dairy cooperative members in India, whose elected Chairman I am. It is from them and their families that I have drawn my strength.

Operation Flood, the programme that has been the vehicle of change for India's dairy industry, is not a story of the triumph of science and technology: there have been no miracles. How then was our White Revolution made possible? I would submit that one very important reason is that we have created structures that give our farmers control over the resources they create.

Over the last two decades, more than six million dairy farmers have joined 60,000 milk producers' cooperatives spread throughout every part of my country. Imagine, if you will, every morning and evening, six million farmers pouring milk at their cooperative -- milk that will travel from

remote villages to towns and cities throughout India. Today, these farmers earn more than $1 billion annually and own some of the largest, most successful businesses in India.

These structures have, first and foremost, returned a greater share of the consumers' rupee to the farmer. They have built markets, supplied inputs, created value-added processing and products. All this has happened because our farmers' productive capacity has been linked with professional management in cooperative organizations that have staked out a place in the market. Put bluntly, these structures have forced others in the dairy business to compete fairly, and they have helped turn the terms of trade in favour of the rural producer.

When producers have such structures at their command, we know that they have the means -- and the will -- to ensure that the results of science and technology reach all those who will benefit. It is only when such structures exist that confidence in a remunerative price stimulates investment in productivity. It is only when such structures exist that farmers can demand the delivery of the services and inputs they need to realize returns on that investment. And, if I may hazard a prediction about the future, it is only such structures that can educate farmers around the world to the fragile nature of the environment and the need to exercise the greatest care in exploiting our limited resources and in controlling our population.

The great lesson we have learned is that we must respect and trust our farmers. They may not be educated, or even literate, but they possess uncommon sense and even uncommoner wisdom. Time and again they have shown the ability to rise above narrow self-interest and parochial concerns to act together in pursuit of longer term goals and a greater common good. Programmes and projects that are designed and managed from the top down, that treat farmers as "targets" and that ignore this untapped capacity of rural producers to manage their own affairs, such programmes invariably fall short of their goals. Those that respect the right of the farmer to manage his own affairs, cannot fail.

We have learned, however, that even producer-controlled structures are not enough to ensure progress. For these structures exist in a social, economic and political environment that may extend well beyond national boundaries.

How, for example, can milk production increase in a country if other nations with well-established dairy industries are allowed to simply dump their surplus at whatever price they can get? Until two or three years ago, world supplies of dairy commodities were in great surplus. Governments -- the same governments that urge us to "liberalize" our economic policies -- competed to subsidize exports. And a great many countries with fledgling dairy industries succumbed to the temptation of those low-priced products. Herd buy-outs, new policies and unexpected events such as Chernobyl, have combined to reduce surplus commodities drastically. World prices of dairy commodities have now more than doubled. Imagine the plight of those countries that relied on the productivity of other nations' dairy farmers and the generous subsidies of those governments.

We are now in the midst of a new round of GATT negotiations, a round in which agriculture has become a central subject of discussion. Those with surplus are trying to find ways to keep the other fellow from subsidizing production while they continue subsidies themselves. The economists who serve these interests provide a great many fancy arguments about why we should do this and not do that. What it boils down to is an agreement that you should produce, and I should buy ... in perpetuity. Well, I for one, will have none of it. We shall not hand over India's markets to the dairy farmers of New Zealand or the soyabean producers of Iowa simply because, today, they enjoy a temporary comparative advantage.

Where it makes sense to do so -- and only where it makes sense -- we intend to ensure that tomorrow <u>we</u> have a comparative advantage.

What is far more important, however, is that we must all work together to increase trade -- in all directions -- to mutual benefit and with mutual respect. Not by taking a short-term view and erecting direct and

more subtle trade barriers, but by sitting together to determine how -- together -- we can feed, clothe and provide shelter to our fellow man.

When we look at what we have achieved in India with Operation Flood in milk -- and now with oilseeds -- we are not looking simply at the application of science and technology, though both have played a role; we are not looking simply at the creation of farmer-owned structures -- though such structures have been necessary to success; what we are looking at is all of this, combined with the orchestration of all the policies and programmes that affect production to ensure -- to the extent possible -- that these support and strengthen our efforts, rather than standing as obstacles, which all too often is the case.

There has been one last, and critically important, ingredient in our success: food itself.

For those of you who may not be familiar with Operation Flood and how it works, let me provide a short background.

Twenty-five years ago we set about to replicate Anand's very successful dairy cooperatives. We believed we knew something about structures and something about the science and technology of dairying. But we had few resources. Those resources that were available were in the hands of government departments that did not feel inclined to share them with us.

Now at the same time, mountains of butter and milk powder were growing in Europe. It was only a matter of time before those responsible for those mountains looked at India and decided that it was just the place to sell that butter and powder. And we knew if they did sell it -- or worse still, if they gave it to us as a gift -- our dairy industry, already weak, would be destroyed.

What we devised was a way in which to use those commodities, but to do so in a manner that strengthened, rather than undermined, our own dairy industry. With the help of the World Food Programme, and then the

European Economic Community, we arranged the donation of some of that mountain. These donated commodities were then used to create a market that our own increased domestic production would later fill. The donated products were sold at prices that did not undercut our own farmers. The funds generated were used to finance our own infrastructure -- dairy plants, feed factories, training, education. This financing was largely in the form of loans, so that the funds were recycled again, and again.

Subsequently we have used a similar approach with our oilseed project. The Governments of Canada and the United States, through their cooperatives, have donated edible oil which we have used for this purpose. We are now even looking at a non-food commodity -- paper pulp -- as a way to finance a project to help "Green India".

I must frankly say that in trying to get Operation Flood implemented, and with the oilseed project, we did face severe practical difficulties. In the early years of Operation Flood, we received mouldy milk powder and rancid butter oil. When we complained, we were told, in effect, that beggars could not be choosers. Finally, I had to intervene and reject the milk powder to make it quite clear that India would not be a dumping ground for commodities unfit for human consumption. Surely this should not have been necessary.

A little later -- in fact, just as our Operation Flood investment was getting into high gear, there was a temporary decline in world dairy surpluses. Our supplies of donated commodities were virtually cut off. A similar situation occurred with our oilseed project when donations were shipped to meet the donors' convenience. Again, we had to take a stand to make clear that we could not accept food aid on a stop-and-go basis.

The relationship between the man who gives and the one who receives is an uneasy one. It must be remembered that we, who receive, are not beggars and those who give are not doing us a favour. In undertaking such collaborations both the donors and recipients are recognizing and acting on a mutual interest. The recipient must learn to receive with dignity; the donor to give with grace.

I have mentioned this because although we have experienced some problems with food aid, we have also benefited greatly from it. It is a benefit that we firmly believe can, and should be more widely shared.

"Food Aid" has three important uses: first, as emergency relief in the case of natural disasters. Such food aid may be vitally important to the survival of those affected. Second, and perhaps more commonly, food aid is used for the medium- and long-term alleviation of hunger. Third, food aid can be used as an investment in the production, processing and marketing of food, thereby helping to eliminate the future need for such aid.

If I may, I would like to suggest that there has been too much use of food aid for the alleviation of hunger, and too little use of food aid as an investment. Food aid has been too often used to alleviate the symptoms, and not often enough to cure the disease.

Feeding programmes have played a useful role -- and can continue to do so in a limited and carefully planned way. However, all too often, such use of food creates dependency, alters food consumption patterns, and depresses demand for local production. I regret to note that this kind of "humanitarian" use of food has also led to abuses. In some instances such donated food is sold, benefiting the sellers and not the intended recipients. In other instances the food has been used to promote political or religious interests. This, I hope you will agree, is improper and immoral.

However, the arguments for food aid as an investment do not rest on problems associated with other uses of commodity assistance: they stand on their own merits.

First, food aid, used as an investment, is anti-inflationary. The food is sold, helping to mop up the consumers' money for investment in development.

Priced consistent with the local market, and imported in appropriate quantities, such food aid supplements food supplies without detriment to market prices or depressing domestic production.

Given a comparative advantage and selection of the appropriate commodities, a donor investment of one dollar can produce two dollars and more in local currency resources for development.

At a time when international debt is mounting, the least productive use of scarce foreign exchange is for food imports. To the extent that donations reduce that outflow, they free such funds for productive investment.

Funds generated from sale of commodities and then loaned can finance creation of structures to produce, process and market commodities; as loan funds are repaid, they become available for investment in expansion and diversification. The resources can be recycled again, and again and yet again.

In the last two years, a hungry world has witnessed some of its most productive member-nations adopt policies and programmes to reduce production. Commodities available for sale -- and for donation -- have diminished sharply. We understand that this has not only reduced world supplies, but has also caused hardship to the producers and consumers of the very countries that have taken such steps.

What must be the effect on the farmer who is told <u>not</u> to achieve excellence, who is bribed to do less than his best? Knowing, as I do, the enormous benefits that result when food is used as an investment, I feel even more strongly that to constrain production in a world with hunger is wrong, even immoral.

Instead, let those nations that have -- or which can produce a surplus -- sit together with those that are as yet unable to fully feed themselves and let us evolve a plan in which surplus food will be used as

an investment to increase the production and productivity of those presently in need.

Let our goal be the ability of each nation to feed itself. By that I don't mean that a nation need produce everything that it consumes, but that it will produce enough to ensure that what is not available can be purchased. Nor do I mean that a nation is feeding itself when significant parts of its population can afford only the barest minimum. A nation is feeding itself when the nutritional requirements of all its men, women and children -- especially its children -- are fully met.

Let us plan, produce and channel surplus to meet the requirements of countries in need, not haphazardly dispose of the occasional excess of surplus producing nations.

Let us plan and commit resources over the span of a generation, sufficient time to build genuinely sustainable results.

Let us jointly examine and agree upon the types of policies and programmes that serve a world in need, not the interests of the few. Let us agree that food aid investment is in the interest of both donors and recipients, and commit ourselves to the highest standards of quality, continuity and integrity -- not only in commodities, but in our efforts.

Let us pledge not to use food either as a political incentive or as a weapon, but rather to contribute to those who need such support and who are prepared to use it well.

Such a plan is one that serves all our interests. If it is a cost to a nation to have people who suffer from hunger, it is equally a cost to constrain producers from pursuing all that they can achieve. If today's donation reduces the market for one commodity, experience has shown that it will open new markets for other commodities tomorrow. By working together we can, I believe, bring some order, progress and sustainable growth to our shrinking world.

The challenge we all face is far too important to leave to our politicians and bureaucrats. Let the leaders of genuine producers' organizations from around the world, from rich nations and poor, take the initiative to use food to for mutual and sustaining benefit. Just as cooperation has proved successful in individual countries around the world, let it prove successful on a far broader scale to solve the greatest problems of our time.

Only last week six countries of Asia, at the ministerial level, sat around a table at the National Dairy Development Board to discuss how the Anand Pattern could be replicated, with suitable modifications, in their countries. These six countries were Vietnam, Indonesia, the Philippines, China, Pakistan and India. The meeting concluded with a resolution to establish an International Centre at Anand for sharing our experiences in the field of dairy development.

That countries so vastly different in their social, political and economic structures should so quickly come to a unanimous decision is a measure of what can be achieved -- if there is a will.

As this year's World Food Prize Laureate, we are committing ourselves to set up such a centre, which we hope will serve not only the Asian countries, but those of Africa and Latin America as well. Let me express the hope that the advanced countries will join in the support of this effort, particularly with food aid as an investment in dairy development.

We have enjoyed a decade of "almost enough", enough to cause complacency. If there is a touch of hunger in the Sahel, then we have tried to patch it up with a few concerts and shipments of food. However, we are now looking toward a much more difficult decade, one in which many will face a rude awakening. The world faces a grave agenda: poverty, hunger, a deteriorating environment, growing populations, new and dreadful diseases. These problems respect no artificial boundaries. Nor are these simply the problems of governments and international organizations. I firmly believe that it is only when people and their

structures become directly involved, when responsibility is with those whose interests are genuinely at stake, then solutions are possible. We can no longer afford the luxury of leaving problems to governments. We must seize the initiative and involve ourselves and the people of the world in attacking hunger, disease and poverty. The future of our world depends on it.

Thank you.

Twenty-third Shri Ram Memorial Lecture

Cooperatives and Capitalism : Institutional Structures for Development

New Delhi
December 13, 1989

Distinguished guests, ladies and gentlemen...

I feel honoured by this invitation extended to me to address such a distinguished audience as is present here today.

Delighted as I certainly am in being here, I must say that in accepting this invitation, I have felt a tinge of apprehension. After all, what does a man like me who has spent all his working life -- some 40 years in all -- as an employee of a farmers' cooperative have in common with leaders of business and industry such as you? Isn't the ideological distance between us too great to permit us to explore together a common ground between the competing ideologies of cooperation and capitalism as institutional structures for development?

Perhaps, there are vast differences of approach between us. The free market doctrine that most of you espouse suggests that the means of production go where they get paid the most; but I have been among those who have advocated that talent and resources must go where they are needed most. In your corporate businesses, capital is the pivot of decision making; but in our cooperatives, the member is supreme and service to the member is central to our management. You are used to a handful of shareholders calling the shots. With us, power must rest with leaders elected by each member casting his single vote regardless of how many shares he holds.

With such diametrically opposite positions, I wondered, what good would it do if I talked to such a gathering? But you can now see that I

have decided to set aside all such doubts and apprehensions to be with you today. I have not done so without valid reasons.

Firstly, I have always had a high regard for Lala Shri Ram as a pioneer of Indian capitalism. Although, I never had the privilege of knowing him personally, I always thought of him as a man not only of great talent and ability, but also of integrity and patriotism. Not many remember that despite being a capitalist himself, Lala Shri Ram was the co-signatory of the Bombay Plan, a plan which had a good deal of socialism in it. I therefore viewed this invitation as an opportunity to pay my tribute to the memory of this great Indian.

Secondly, in my opinion, cooperation is not just an ideology; to me, it appears to be a logical necessity if we, as a nation, want to come to grips with the most important issues facing our rural society.

Thirdly, I believe that, like other enlightened citizens you -- the businessman and industrialist -- are also interested in vital issues facing our society. Therefore, I reasoned, you would be interested in discovering our experience of developing and managing businesses of farmers through cooperatives, and their contribution to the development of our agriculture.

Then, I also thought that after all, it is not that I have nothing whatever in common with you. Way back in 1944, I began my professional career as a young engineer with Tatas. In fact, it was as an Apprentice Officer in Tata Steel that I was given my first -- and probably my best -- lessons in professional management.

And lastly, I too am a businessman, though not usually listed as one. As the chairman of the Gujarat Cooperative Milk Marketing Federation, I am the elected chairman of 1.3 million farmers who own an enterprise with a sales turnover of about Rs 500 crores a year, which should increase to some Rs 1,000 crores in the next five years. This business was not inherited, but was built brick by brick over the past 40

years from scratch. Yes, I, too, am a businessman like you, and in inviting me today, you are paying me this compliment.

Early thinking on economic development

Our nation's beginnings were turbulent days indeed. Indian nationalism was fighting its last battles against the colonial rule. There was also much thinking about the route to rapid economic development that India might choose once it became independent. India, in those days, had no industrial infrastructure to speak of. There was a long way to go; but pioneers like Lala Shri Ram had raised the hope that our nascent capitalism might provide answers to some of the crucial questions of economic growth. Many a young man was looking forward to participating in this nation-building task through the corporate industrial route in an independent India. I too was looking forward to such a career for myself. My destiny, however, held another and different future in store for me.

Tryst with a cooperative

In 1946 the farmers of Kaira, the prosperous agricultural district in western India where I have been working now for 40 years, struck against the exploitative trade practices of Polsons, a private monopoly milk contractor. Under the enlightened leadership of Sardar Vallabhbhai Patel, the farmers decided to organize their dairy business on cooperative lines. By a quirk of fate I stumbled into this small town of Anand -- the centre of this experiment -- and unwittingly ended up working for this young cooperative.

Working for farmers has never been popular with most young urban professionals in our country; when I started my career, my aspirations were no different. As a young city-slicker, fresh with an American degree, I looked at this small evolving cooperative with an equal measure of

disdain and amusement; but, however so much I tried to run away from it, I found myself increasingly attracted to it. I decided to sell such talents as I possessed not to the highest bidder, but to this cooperative where those talents were most required.

What made me do this was the sheer excitement of the struggle that the young cooperative was waging against the business interests that it threatened; against self-seeking politicians and bureaucrats who found the potential strength of organized farmer power that Amul represented disconcerting. Helping to shape a cooperative of milk producers, owned and commanded by them through their elected representatives, and with the help of professional managers employed by them, was a reward unto itself. And therefore I stayed on. Amul grew rapidly during the fifties. However, even before it grew to its full potential, farmers from neighbouring districts began to establish their own dairy cooperatives, adopting the cooperative principles that Amul had tested and developed. They built their own dairy plants with managerial and technical expertise offered generously by Amul. They too established strong village cooperatives and their own milk and milk product processing systems. Ultimately, they joined together into a federation to market their products nation-wide under a common brand name.

Anand Pattern and Operation Flood

Thus, the Anand Pattern was born. It embodied an institutional structure owned and commanded by tiny milk producers who, collectively, owned large modern dairy factories employing high calibre professionals to manage their affairs; matching wits with multinationals in city markets and yet responding constantly to changing needs of farmer members at the grass-roots.

Largely due to the efforts of the National Dairy Development Board, established by the Government of India in 1965 to replicate Amul, the spirit of the Anand Pattern has spread far and wide over the past 25 years. In the middle of the third phase of Operation Flood -- the world's largest dairy development programme aiming to restructure and modernize

India's dairying on cooperative lines -- there are now some 180 Anand Pattern district unions like Amul at various stages of development in different parts of India; over 50,000 village cooperatives of which some six million milk producers are members are affiliated to these unions. Together, these dairy cooperatives procure over 10 million litres of milk from their farmer members every day and pump Rs 12,500 million towards payment for milk procured from the farmers every year. Daily, some six million litres of milk are marketed in 500 urban demand centres; the rest is converted into a variety of milk products.

The spirit of the Anand Pattern has by no means remained confined to dairying. The Dairy Board has been called upon to apply the basic principles of the Anand Pattern in fields other than dairying such as: oilseeds and edible oils, where already farmers from 6,000 village oilseeds growers' cooperatives have formed into seven state oilseeds growers federations; fruits and vegetables; rural health; and salt farming.

Traders as an exploitative class

In a country like ours, where agricultural production is in the hands of large number of tiny producers, the most important ingredient in the task of agricultural development is the forging of linkages between producers and consumers. In the Indian agricultural economy, these linkages were traditionally provided through the emergence of a trading class. Early on, the trader realized that in order to earn, you did not necessarily have to produce. He discovered that by merely buying a commodity and selling it, you could make a good deal of money; that by buying a commodity, storing it for some time and then selling it, you could make even more money; and that by buying a commodity, hoarding it, and speculating on it, one could easily become a millionaire. Thus, the class of private traders which traditionally provided the link between the rural producer and the urban consumer emerged as a powerful and exploitative class.

Since agricultural production is seasonal, the prices of agricultural produce keep fluctuating across the year. And, since the markets for the

agricultural commodities -- such as, for example, oilseeds -- are controlled by the private traders and speculators, a marginal increase in production leads to massive falls in producer prices. When there is a marginal reduction in output, the prices of farm produce to consumers go sky-rocketing. In the first case, it is the farmer who ends up losing; in the second, it is the urban consumer; but the trader always makes his kill either way.

How can agriculture develop in such a situation? How can we expect our small farmers to take to modern technology when they have to contend with a trading class that drains their meagre incomes? How can we expect that they will make investments to raise their productivity when there is no assurance of even a modicum of stability in the economic returns from their labours? The principal lesson from the Dairy Board's work is that it is only by a large number of tiny producers organizing themselves into a cooperative -- a cooperative that assumes command of the procurement, processing and marketing of their produce -- that they can be assured of a fair and stable price for their marketed surpluses. It is only by enabling such cooperative organizations to emerge and develop into strong and viable institutions that our small farmers will turn to modernity and technological progress and increase the productivity of agriculture.

Strong cooperatives

But this needs strong cooperatives, a goal that is easier said than done. For, every time farmers organize to create their own institutional structure, they are faced with opposition from vested interests. And such opposition is not always limited to small time traders; as they have grown larger and stronger, farmers' organizations have had to take on larger and stronger adversaries. Indeed, the history of Amul is but a history of the farmers' struggle with vested interests from large private and multinational businesses. One such multinational found it so lucrative to do business in India that in the second year after it began production, it declared a dividend of 90 per cent; in the third year it declared a dividend of 100 per cent; in the fourth year of 110 per cent. One has been hearing

that profit motive fuels the engine of capitalism. But this was no profit. This multinational was looting our country. Naturally, when Amul crossed its path, the multinational in question reacted viciously. And, understandably so; for which country in the West -- even amongst those most devoted to capitalist ideology -- would permit such loot in the name of free enterprise? Who were the guilty men in India who closed their eyes and let this happen? How many of them own shares in such multinational companies?

Luckily for us, Operation Flood and the Dairy Board enjoyed support from the highest levels of our political leadership. Therefore, we could take on such multinationals. This, however, has not meant that opposition has subsided. In fact, I understand, that a federation of Indian businessmen recently argued in a petition to the World Bank -- no doubt drafted by a multinational company who is their mentor -- requesting that the Bank should refuse finances to Operation Flood. Why? Because, they argued, Operation Flood "restricts competition in the Indian dairy products' markets."

Rules of fair competition

Notably, this business federation found only cooperatives restricting competition; they seem to have no objection to the traditional milk traders who continue to dominate the Indian dairy business. It is the cooperatives -- which provide inputs and services, which supply the fluid milk to our cities, and which pay our farmer fair and remunerative prices for his milk -- it is these cooperatives, they feel, that are inhibiting competition.

Large private corporations in the advanced Western countries are hailed as pioneers of technical change in their countries. But not so in a Third World country like India. It is well to remember that it was the cooperative at Anand that pioneered the manufacture of milk powder from buffalo milk for the first time when internationally renowned experts of several countries opined that it was not technically feasible. When a multinational company was asked to produce condensed milk in India instead of importing it, it said it could not do so as it was too complicated

and a difficult product for the "natives" to manufacture. The Government of India, therefore, asked Amul to pioneer production, and when this was done and imports banned, the multinational company pleaded for permission to set up a plant in India and agreed to let the "natives" run it. When yet another multinational refused to manufacture baby food in India instead of importing it, again it was the cooperative at Anand that was asked by the government to initiate its manufacture, forcing the multinationals to follow suit. And, of course, we have the classic case of the multinational I mentioned earlier which made malted milk food in India and declared dividends of over 100 per cent. It was again the cooperative that was asked to discipline them. And the cooperative did it, with no foreign collaboration and with an Indian trade name.

India is a large country. There is plenty of room for competition; our only request is that it be a fair and reasonable competition. It is not fair to expect a cooperative to bear the costs of providing cattle feed to farmers at cost, if it cannot procure the increased milk that results; it is not fair if a cooperative provides veterinary cover and the milk from the healthy animal is purchased by a milk contractor; it is not fair if the cooperative provides 70 per cent of its milk for sale as fluid milk in the cities and must compete with a firm that produces only higher priced, value-added products.

Rebuilding our cooperative management

While criticizing the efforts of private corporations in undermining our cooperatives, I do not wish to ignore the weaknesses and shortcomings of our cooperative movement; neither do I wish to claim, even for a moment, that our cooperatives today are paragons of virtue. Our founding fathers had dreamt of an India convulsed by strong, democratic, independent and people-centered cooperatives. But these dreams often have been dashed on the shoals of politics, bureaucracy and disregard of the fundamental principles of cooperation.

What should have been a people's movement has been officialized, bureaucratized and politicized. It is not necessarily wrong that a political

person serves as a cooperative leader; it is wrong when political purposes are advanced at the expense of the principles and purposes of cooperation. It is not necessarily wrong when a government officer serves a cooperative; what is wrong is when there is no accountability to the members, or where the members' desire for responsibility is blocked. Men become responsible when responsibility is given, not when it is withheld.

Cooperative law

It is by no means too late for us to begin rebuilding our cooperative movement. In doing this, the first and most important step, in my opinion, is to frame and enact new cooperative laws in the states and at the centre. Our cooperative act was legislated 85 years ago. Long ago, some kindly Englishmen wanted some money lent. So they formed credit cooperatives. But, lest the "natives" elope with the cooperatives' money, the British rulers enacted a cooperative law that gave enormous powers to the Registrar of Cooperatives who had to be an Englishman since the Act specified that he should be a member of the ICS.

Then came Independence -- and, along with it, the hope that the laws -- and, the attitudes of the bureaucrats and politicians enforcing those laws -- would change and become more people-oriented. This hope has, however, been dashed against the reality of a burgeoning bureaucracy and a politics devoid of an ethical base. The "gora" sahib as the Registrar of Cooperatives has been replaced by the "brown" sahib, who -- enjoying the powers to even supersede elected boards of cooperatives -- can, and often has, played God to them. For the unscrupulous politician, who controls the bureaucrat, the present cooperative law is a godsend: it enables him to play boss to the god -- which is very pleasurable indeed!

Obviously, this has not helped the cause of a healthy cooperative movement. When all that a cooperative did was to lend a few hundred rupees, it probably did not matter much. But this is not the case today; the Gujarat Cooperative Milk Marketing Federation, of which I am the elected chairman, does a business of Rs 500 crores a year; and yet, the

present law empowers a Deputy Registrar -- who is often little more than a small official -- to play havoc with such a business simply because it belongs to a cooperative. To take an analogy, imagine what would have happened to Mr. Tata if the Registrar of Companies had the same powers as the Registrar of Cooperatives. He would have superseded the TISCO Board long ago and his Assistant Registrar would have been made its managing director!

This has to stop. We must -- in our new cooperative laws -- redefine the responsibilities of the Registrar. Regulation, protection of the interests of the members, these are the legitimate roles of the Government; management of cooperatives is not. Cooperatives must be given the freedom to manage their own affairs, without the interference of government in every decision. We must seek, through legislation, to protect the cooperative from narrow political interests, thereby encouraging the broader national interest. We must, in our new laws, recognize the roles, responsibilities and accountability of the professional manager, for a cooperative that fails as an enterprise will fail as a vehicle of service to its members. Our new law must not just allow, but must require our cooperatives to freely elect their own leaders. A cooperative with an appointed chairman and board is no cooperative at all. What we should create is a model cooperative law that embodies each cooperative principle and which enables cooperatives to flourish; a cooperative law based not on alien values, but one that reflects our unique national genius.

Faith in the farmers

The next step is as difficult to realize as it is simple: we must place faith in our farmers. Most of us present here are, by and large, products of our educated elite. We have all the advantages of superior education and training. We hold positions of authority and responsibility. Let us rediscover the truth that the unlettered villager is often the wisest of teachers and that, without our guidance and direction, the villager survives and even thrives in conditions we could not face. Every day the farmer faces challenges and responsibilities far greater than ours. Why,

then, should we not place our faith in him and let him be responsible for his own destiny? I have been an employee of farmers for forty years. I can assure you that faith in our farmers will not prove misplaced.

It is a reflection of our lack of faith in our farmers' ability to manage their own affairs that the bureaucracy has so deeply penetrated and controlled people's organizations. In my opinion, to continue to justify and perpetuate the hegemony of an insensitive bureaucracy by arguing that people cannot organize and manage their own affairs, or to say that they will not have the good sense to employ professionals, is not simple naiveté but reflects self-serving hypocrisy of the worst kind. The best way to ensure that the government plays a facilitative role in a healthy cooperative movement is by asking the bureaucracy to stand aside and by encouraging people to come forward and take charge of their own destinies, allowing them to make mistakes, and offering support and guidance only when needed.

Leadership

The third step we should take is to restore the purity and integrity of our cooperative movement. The cooperative can be a powerful force for constructive change in our villages, but only if its leaders behave with decency, honesty and integrity. As Mahatma Gandhi once wrote, "the cooperative movement will be a blessing to India only to the extent that it is a moral movement." We must relentlessly and courageously expose those who seek to exploit the movement for personal gain.

Naturally, the most crucial element in fostering a strong cooperative movement is strong, honest and committed leadership. Regrettably, the only system through which people's leadership could so far emerge in our country has been the parliamentary and the political structure. But this clearly is a very unsatisfactory situation since only those in search of power and money -- and not those pursuing lofty ideals and noble causes -- get attracted to this route. Money and power attract the worst leadership; whereas it is the nobility of causes and the spirit of service that bring out the best.

Cooperatives and our democracy

In my opinion, a far better route for good leadership to emerge -- not only for the cooperatives but also for our polity -- would be to encourage a plurality of people's institutions to undertake procurement, processing and marketing of rural produce, and rural development in general. In a significant way, this is already beginning to happen in some parts of India. There can be one such cooperative structure for each important economic activity, each with its own democratically elected management and vertically integrated into a structure that can use professional managers and modern technology -- the two foci of modernization and economic growth. Such a plurality of institutional structures will reduce the risk of those seeking power and wealth taking charge of public institutions and provide honest and competent men and women a chance to prove themselves. For the people searching for committed and high quality leadership material too it will be a great help -- since it will spread the risk of failure over multiple institutional structures.

It is my contention that, in our collective efforts toward economic development, cooperatives are as good an organizational form as any other. However, in comparing cooperatives with other forms of social and economic organisation -- including capitalism -- the real benefit that tilts the scale in favour of the cooperatives is their wider social significance in underpinning our democracy in Delhi and our state capitals by democratic institutions right down to the village level. As an Indian, I believe this is a benefit of inestimable value.

Purposeful co-existence

India is a vast nation; and the problems of India's development are as complex as they are diverse. No single theory or ideology can solve all of our problems. Therefore, even though we have committed ourselves to different social philosophies, we must learn to work together towards our common goals.

At the dawn of our Independence, when the organized labour movement started in our country, many short sighted capitalists had tried hard to crush it. However, they failed. Today, labour unions have come to stay. Not only that, they have also helped to establish some balance between returns to labour and to capital, and to achieve a better income distribution.

Just as unorganized labour is exploited by capital at the early stages of capitalism, so also have our rural people been exploited by the urban elite. You will agree with me that our industry has so far thrived at the expense of agriculture; and our cities have progressed at the cost of our villages. And, I might say, organized labour and capital have walked away with the cream while our farmers have increasingly got a smaller share of India's progress. This imbalance has to be corrected. The only way of stopping this unequal exchange is by organizing peasants, since only an organized peasantry can provide effective countervailing power to match the power of organized labour. Only then can we restore the balance between peasants and workers, between labour and capital.

Today in the case of milk, for example, the private sector is continuing to support and encourage milk merchants as they depend on them to procure milk, a task they consider tedious and where to create their infrastructure to link them directly with the producers would entail great expense.

Once it is recognized that cooperatives are in fact private enterprises that not only are here to stay, but which will become a significant sector, it would be prudent for larger business houses concerned with agro-businesses -- in their long-term interest -- not to participate in erecting structures that are exploitative of small farmers or to oppose formation of cooperatives. It is only then that the cooperative and capitalist structures can co-exist to mutual benefit. It is with this hope that I have ventured to speak to you.

Thank you.

Bidhan Chandra Krishi Viswavidyalaya

Convocation Address

Seventh Annual Convocation
July 12, 1990

Mr. Chancellor, Mr. Vice-Chancellor, members of the faculty, distinguished guests and graduating students ...

I feel honoured and delighted to be here today at the 7th Annual Convocation of Bidhan Chandra Krishi Viswavidyalaya. This university has come up after many difficulties and vicissitudes. It has created great hopes for agricultural development -- not only for West Bengal but for the entire eastern India. The role of this university becomes particularly important because the eastern region has lagged behind the rest of the country in agricultural development. You, the graduates of this university, are its torch bearers. It is through your lives and work that this university will realize the promise with which it was set up. I have no doubt that you have been trained in the latest technologies of agricultural production. However, I would like to suggest today that the development of eastern India requires more than just modern technology. It requires the erection and operation of institutional structures that are responsive to the needs and aspirations of the people. Government structures, I submit, may not be the most appropriate ones for agricultural and rural development.

The biggest asset of India is its people. The Indian people are intelligent, and when properly motivated, they are able and hard working. There are also 800 million of us. We represent a vast reservoir of power, which you must learn to unleash. For this power of our people to assume the desired direction and thrust, we need to align it with professionals. It is in this sphere that the role of agriculture scientists -- professionals like you -- is of the greatest value to our country and to our rural people.

The major challenge of our time is to correct the imbalance between our cities and our villages, between industry and agriculture, between organized labour who work in our factories and offices, and the unorganized labour who work in our fields. It is naive to believe -- as some

of us do today -- that large numbers of our rural people are poor because they are illiterate and ignorant. The fact, in my opinion, is that the benefits of freedom over the last forty years have been largely usurped by organized labour. It is erroneous to believe that our villages are backward because they are not capable of progress. The fact is that the lion's share of investable resources has been captured by our urban elite.

While the efforts of the present government to allocate a large share of the nation's resource to agriculture and rural development is indeed most laudable, it is also necessary to organize farmers into economic structures which they themselves command. Such structures can best be erected, initially at lest, to procure, process and market farmers' produce. Later, they could be extended to provide the inputs the farmer needs, be it fertilizer, irrigation, rural electrification, health or education. Such structures could well replace the existing government agencies whose efficiency, integrity and competence are progressively declining, succeeding only in providing larger and larger numbers of secure jobs for those who are prepared to work less and less while being paid more and more. These are burdens no county can continue to bear for long, nor are they burdens our farmers will tolerate much longer.

The erection and operation of such structures involving millions of our farmers demand that we train thousands of our youth -- the very best of our youth -- to function efficiently in such structures, to manage them with competence, dedication and integrity, to mold such structures so that they also benefit the poor, the weak and the deprived, and above all, to ensure that these structures maintain their rural orientation and function in a truly democratic manner. A plurality of such structures will ensure that through such structures will emerge a high quality of rural leadership in large numbers, thereby eliminating our present total dependence on our political and parliamentary systems for the emergence of our future leaders. This will improve the quality of our democracy, preventing it from being confined to Delhi or Calcutta -- extending such structures right down to our villages -- giving democracy deeper meaning, finer qualities and greater permanence.

These inferences are not academic theories. Neither are they founded on rigorous research. These are the lessons that we have learned, first in Anand and then elsewhere in the country, by helping to create strong, viable, democratic cooperative organizations owned and commanded by farmers. Four decades of experience have shown that producers, through their cooperatives, learn how to make the institutional structure work for them. Their cooperatives, in fact, become one of the most functional parts of the institutional structure. Creating an awareness that the village community can use modern technology to improve its productivity is the first major outcome of organizing farmers. The institutional structure through which the community can effectuate this awareness is the other. One of the major drawbacks of our higher education system is that it teaches our students very little about our distinctive genius. Our engineers see development in building big dams and factories. To the agricultural scientists, development stops at breeding high yielding varieties. For animal breeders, development means embryo transfer technologies. These are, no doubt, essential to development; but these, by themselves, do not constitute real development.

True development is the development of man. It is not simply doing more of the same: true development consists in constantly innovating; in building institutional capacities to respond to new challenges; in adapting and creating newer forms of institutions to meet the diverse needs of rural people.

I do not know what your teachers have taught you about development. I also do not know how many of you, after getting your degrees, would like to get down to the tasks of development rather than taking up cushy jobs in multinationals or in government. What I do know is that those of you who do decide to plunge into a development career will need to be tough men and women, courageous enough to face the resistance that vested interests will certainly put up. You cannot be mere agriculture professionals; you will have to prepare yourselves to be the leaders of men and of social systems; you will have to be path finders who make your way through obstructions; fighters who will not get daunted by

the immensity of the task ahead. In the vast ocean of mediocrity and corruption that pervades our society, it is those few -- ceaselessly striving for excellence, for relevance and for a just society -- who will realize the promise with which this great university was established.

Working for the farmers is not the easiest of the jobs you could get. It may not be the most lucrative either. It will certainly not have the glamour of working in a multinational company selling pesticides.

However, a career devoted to the service of the farmers has its own rewards. The farmer is the wisest of teachers. A good deal of what you have learned here is just information; but what the farmer can teach you is the wisdom developed over generations of experience, distilled and handed down from one generation to the next. The farmer is also a very decent human being. If you work in his best interest, he would be the first to be grateful to you and to lend you his support. It is this support, derived from the enormous farmer power of our country, that has helped professionals like me and my colleagues to withstand the opposition of vested interests, petty bureaucrats and wily politicians who view the emergence of strong farmer organizations as a threat to their own empires.

Many professionals and politicians in our country do not understand this true character of the Indian farmer. They seek cheap popularity with the farmers through reckless programmes of subsidies and debt relief; in doing so, they think the farmer is stupid. They sell out poor people's interests to promote commercial goals; in doing so they probably think that the farmer is too weak to resist. But the farmer is neither stupid nor weak nor short-sighted. He is wiser than all of us; and that is the lesson you should take with you as you embark upon your careers.

As you leave the portals of this university and begin to tread your chosen path, you may like to remember that when you come to the end of the road, even as I have, there is one person and one person only, to whom you are finally answerable for all that you have done or not done along the way: and that is to yourself. It is, therefore, no use being

popular by giving away other people's money; it is no use evolving populist policies that drain state funds; it is no use placating powerful, commercial interests by sacrificing farmers' interests; it is no use kowtowing to political bosses and betraying poor people's interests; it is no use trying to be popular with the press by spreading lies -- because, ultimately you are answerable only to yourself, and when you reach the end of the road you must be able to say to yourself -- “I honestly tried and gave my best in the service of farmers.”

I wish you well.

23rd International Dairy Congress

Food Aid - Impact and Future Role in Dairy Development

Montreal, Canada

October 9, 1990

Some twelve years ago I had the opportunity to speak to the Economic Committee of the XXth International Dairy Congress in Paris on the subject of food aid. At that time our efforts in this field were relatively new: Operation Flood had been initiated in 1970-71. Now that we have had considerably more experience and have attained some modest success, I welcome the opportunity to once more address this Congress on the subject of food aid.

In examining the impact of food aid and its possible future role in dairy development, it is important to begin with a brief look at the objectives, purposes and methods of food aid. When we do so, we find that donors and recipients often have quite different perceptions of what food aid is, and should be.

Donors generally approach food aid with a mixture of interests and motives. Certainly there are humanitarian concerns involved -- the desire to alleviate the misery and suffering of one's fellow men, a motive that may also reflect a sense of guilt over having contributed to creating the conditions in which those fellow men suffer. Donors also use food aid to bolster their political relationships with the recipient; as a means of disposing the surpluses created by their own farmers; and as a strategy to develop future markets. It is hoped that today's recipient of largesse may become tomorrow's buyer of the same product. I think you will find all of these interests incorporated in the legislation that various donor countries have enacted on the subject of food aid.

Recipients, too, approach food aid with a variety of motivations. In some instances, faced by natural or man-made crises, food aid is requested in order to save the lives of those affected. In other instances abundant supplies of food aid mask the failure of a government's

agricultural policies and help to constrain what might otherwise become very high food prices -- particularly in the urban areas -- which seem to be the focus of concern for most governments; quite possibly because politicians and bureaucrats generally live in cities. Another motive in seeking and accepting food aid is to provide nutrition to what we might call the "weaker sections" of a population, those urban and rural poor who cannot afford an adequate and balanced diet.

These various donor and recipient interests tend to be expressed primarily in two types of food aid programmes: emergency assistance and humanitarian relief.

In the case of emergency relief, food may be a vital necessity to stave off the results of natural disasters such as droughts, floods, earthquakes, cyclones and the like. In countries whose citizens live on the thin edge of survival, such assistance can prove the difference between life and death for thousands, or even millions, of those affected.

Food aid may also have practical and humanitarian importance in the medium- and long-term alleviation of hunger and malnutrition. Here, too, it may be vital to the well being of its beneficiaries.

However, laudable as such programmes may appear, and as politically defensible as they are for the donor governments concerned, there would appear to be mounting evidence that the results are not all that is desired -- whether viewed from the perspective of the donor, or the recipient.

First, we have seen that large supplies of food, whether as emergency relief or humanitarian assistance, can often trigger a cycle of dependency. Because the food is readily available -- both to the hungry and to the governments who are responsible for the hungry -- inadequate efforts are made to identify and correct the problems that required external assistance in the first place. I am told that today in India -- and I expect in other parts of the world as well -- the children and even the

grandchildren of the original "beneficiaries" of feeding programmes continue to rely on such donations.

Second, the easy availability of free or heavily subsidized food will depress domestic prices to the point where it is no longer feasible for the local farmer to compete. As you can imagine, this simply exacerbates the problem that triggered the need for food aid in the first place.

Third, we are told that there are instances where consumer preferences for donated cereals and processed foods have displaced local foods from the diet, again at the cost of local self-reliance.

I believe that there have been any number of studies done by economists and social scientists (may their tribe perish -- they are never there, where the action is), studies that have highlighted these types of problems with the use of food aid for emergency relief and humanitarian assistance. Despite these, the lion's share of such assistance continues to be directed to these uses.

When I spoke to the Congress Economic Committee in 1978, I described a third use of food aid: food as an investment in the production, processing and marketing of food. Used in this way, I suggested, food could help to eliminate the need for such aid in the future.

In 1978 we were still in the relatively early stages of Operation Flood. For those of you who may not be familiar with this programme, let me provide a bit of history.

In the years after India's Independence, my government experimented with a number of different approaches to developing our national dairy industry. There were milk colonies, government dairies, intensive cattle development programmes and key village schemes. It seemed, however, that all these programmes succeeded in increasing was the number of bureaucrats employed to run them. As time passed, our milk production stagnated and per capita consumption of milk began to decline at a precipitous rate.

On this rather bleak landscape there was one notable exception: this was a cooperative enterprise started by some men of vision, ability and principle, an enterprise that linked the tremendous productive genius of our farmers to professional management and modern technology. It was my good fortune to be associated with this enterprise from an early stage.

In 1964, our second Prime Minister, Mr. Lal Bahadur Shastri, visited this enterprise in the small town of Anand in Gujarat. He spoke with the farmers, looked at their fields and at their animals. What he concluded was that what had made Anand a success was the fact that the farmers themselves had control over their cooperative and that they had the wisdom to employ competent professionals to manage that enterprise for them. He, therefore, decided that we should try to create Anands throughout India. To this end the National Dairy Development Board of India was created.

When we started out in 1965, we had a reasonably clear idea of how to proceed with the creation of Anands. But we had few resources with which to work. It soon became clear that the bureaucrats and technocrats who controlled all those government dairies, milk schemes, cattle development programmes and veterinary departments were not at all anxious to surrender their empires to work for a bunch of farmers. At the same time, we were becoming increasingly concerned as we watched mountains of butter and skim milk powder growing in Europe. It would only be a matter of time before those mountains were exported to India. Had that happened it would have tolled the death knell for our nascent dairy industry.

Fortunately, some men of vision collaborated with us to transform those mountains from a threat to an asset: initially with the support of the World Food Programme, and then directly with the European Economic Community, we were able to use food aid as an investment in the revival of dairying in India.

The investment of food aid, later combined with World Bank assistance, has produced results. Today more than six million families participate in a dairy cooperative structure that covers much of India. Milk production has increased substantially -- as has our per capita consumption of milk and milk products. In 1989, our production had reached a level where we could decline dairy commodities as food aid; we shall again decline such assistance this year. Save in the event of severe natural calamity, we hope that we have now reached the point where we shall no longer require such donations. In fact, I suppose that is no secret that this year we have made a modest entry into the export market.

More important than increasing the availability of milk, Operation Flood has meant a reliable source of income for millions of our rural people. For many, dairying has become their primary employment. In fact, the success of the cooperatives has increased employment in every area of the dairy industry, from equipment manufacture to marketing of products. I believe today that milk stands second only to rice as a source of agricultural based income in India.

The success of Operation Flood in dairying has led to its adaptation and application to oilseeds, horticulture and even forestry. Although these are still in a relatively early stage, the results are also quite encouraging. In fact, all our experience has convinced us that food aid can and should be used as an investment.

However, I must add a note of caution. Using commodities as an investment in development is not a panacea. Our experience has made it clear that there are a number of important conditions that must be observed if such an approach is to prove a success.

The first conditions is that we create producer-owned and controlled structures. These enterprises return a far greater share of the consumer price to the farmer. They build markets, supply inputs and create value-added processing. All this happens because the farmers productive capacity is linked with professional management in cooperative organizations that have staked out a place in the market. Put bluntly,

these structures force others in the dairy business to compete fairly and they turn the terms of trade in favour of the rural producer.

When producers have such structures at their command, we know that they have the means -- and the will -- to ensure that the results of science and technology reach all those who will benefit. It is only when such structures exist that farmers gain the confidence necessary to stimulate their investment to increased productivity. It is only when such structures exist that farmers can demand -- not beg for -- the services and inputs they need to realize returns on that investment.

Let me share the greatest lesson we have learned: we must respect and trust our farmers. In many parts of the world farmers may not be educated, or even literate. But they possess uncommon sense and even uncommoner wisdom. Time and again they have shown the ability to rise above narrow self-interest to act together in pursuit of a greater good. Programmes and projects that are designed and managed from the top down -- that call farmers "targets" -- and that ignore the untapped capacity of rural producers to manage their own affairs, such programmes invariably fall short of their goals. Those that respect the right of the farmer to manage his own affairs cannot fail.

It is not enough, however, to use food aid as an investment and to promote farmer-controlled enterprise. Such structures must operate in a social, economic and political environment, one that may extend well beyond national boundaries. Therefore, a concerted effort must be made to ensure that this environment includes the programmes and policies that encourage and support development. Policies, import and export regulations, taxation, investment terms and conditions are all among the many such policies that must be coordinated in an overall approach in support of food aid.

The donor, too, has a role to play in ensuring the success of food aid as an investment.

When I spoke to the International Dairy Congress Economic Committee in 1976, I spoke of the types of conditions that donors would need to meet. The first point concerned quality. Unlike emergency relief and humanitarian programmes, food aid as an investment requires that consumers pay for the food. In order to ensure that local prices are not depressed, the consumer must pay as much as he would if the food were produced locally. This means that the quality of the commodity must justify such prices: in other words food aid for investment must be of the finest quality.

Second, building an industry from basic infrastructure to production through marketing takes time. It takes even longer if a strong producer-owned structure is to serve as the foundation. This requires donors to think in terms of time frames quite different from those to which they are accustomed. A programme of Operation Flood's magnitude may require two decades; others -- somewhat less ambitious -- may require only seven, ten or twelve years. What is critical is the continuity of the support. Once commodity assistance is provided, it must be committed for the duration. This means that food aid as an investment must be insulated from short-term problems of supply and from political exigencies.

Twelve years ago I suggested that the overriding objective of all aid should be to eliminate the need for aid and that the use of food aid as an investment would seem to be the most likely way to achieve that objective. I then asked, "Why is it that food aid has rather seldom been used as an investment?"

I wish that, today, I could say to you that food aid is now widely used as an investment. Regrettably, I cannot. While we have successfully used food aid as an investment for Operation Flood, and with projects designed to build self-reliance in other commodities, there would seem to be few other examples of such uses of food aid elsewhere in the world, or even in India. This is despite the fact that each year we receive invitations from other countries and, to the extent we can, we send our officers to provide advice. But, without food as a resource, little can be achieved.

So, in 1990, I must again ask why food aid is not widely used as an investment?

One explanation that comes to mind is that our very success in using food aid may have caused donors to have second thoughts. Several donor countries not only explicitly include market development as a rationale in their food aid legislation, they have also placed restrictions on economic and commodity assistance that might help the recipient to become self-reliant or, heaven forbid, a competitor. So I must ask myself the question: has India, by making a success of food aid -- that is, by eliminating the need for such aid -- prejudiced the chances of others to do the same?

A second explanation that has been advanced is that the great mountains of butter and skim milk powder are no longer there. Government programmes to buy herds, to limit acreage, to penalize productivity, have all combined to bring supply into closer balance with demand, sufficiently close to end surpluses and, if you will, nudge prices up a bit. While there is no denying that such programmes have been implemented, there is apparently also no denying the will of the farmer to produce. And so, I am told, once again mountains of butter and powder are beginning to rise.

A third explanation is that foreign assistance is never popular with domestic political constituencies and that it is far easier to feed starving people than to explain and defend the intricacies of food as an investment. There are few politicians willing to honestly admit to the fact that all official development assistance represents only a small fraction of total resource transfers between rich and poor nations and that the flow of those transfers continues to move from poor to rich.

Whatever be the reasons, I believe that we must take a broader and longer view. We can no longer afford to do otherwise.

We have enjoyed a decade of "almost enough". Just enough to cause complacency. If there has been a bit of hunger in the Sahel, then

we have patched it up by holding a few concerts and sending a few shiploads of food.

We are now looking at a far more difficult decade, one that will cause many a rude awakening. The world faces a grave agenda: poverty, hunger, re-emergence of oil as a source of crises, deteriorating environments, growing populations, new and dreadful diseases.

There is a hunger in today's world. If India is self-sufficient in cereals, it is because a significant portion of our population can afford to buy very little. The same must be true of many other countries. Even in the industrial nations the hungry exist in growing numbers.

Yet, in the face of hunger we see the governments of some of our most productive nations adopting policies and programmes to reduce production of food. Commodities available for donation, and even for sale, have diminished. This has not only reduced world supplies, it has caused hardship to the producers and consumers of the very countries that have adopted such policies.

What must be the effect on the farmer who is told not to achieve excellence, who is bribed to do less than his best? Knowing, as I do, the enormous benefits that result when food is used as an investment, I feel all the more strongly that to restrict production in a world with hunger is wrong -- even immoral.

And, I might add, it is ill-considered and short-sighted.

Agriculture is important to the economies of even the most advanced nations. The export of agricultural products is critical to the health of the economies of countries like our host and its neighbour to the south. Many of these nations have "invested" a great deal in building commercial markets through commodity assistance. Yet, by creating and reinforcing dependency, they have ensured that the recipients of their support remain unable to afford the products they wish to sell.

To compound the problem, we see governments spending vast sums to take land and animals out of production. This has driven up the prices of their commodities. So they spend even greater sums to bring the price down to compete with other exporters who have done precisely the same things. And the next thing we know the IMF and World Bank start talking about "comparative advantage" and telling us to liberalize and rationalize our economy! Comparative advantage, it seems, is having the resources to subsidize both producer and export prices.

So we have a situation today where the poor nations of the world are gripped in a cycle of poverty and debt which is unwittingly reinforced by the policies and programmes of the wealthy. But the wealthy find that in order to sell to the poor, they must either subsidize the price or simply donate more -- either action simply reinforces the same cycle of poverty with the only difference being that each year the numbers of poor grow, increasing the misery and raising the cost of its alleviation. Where does it all end?

Today the per capita consumption of butter in Europe and the Soviet Union is more than four kilograms annually. Pakistan's citizens consume just under three kilograms per head; Canadians and Americans consume around two kilograms; we Indians divide our butter up at the rate of about one kilogram for each of our 844 million. The rest of the world consumes, on an average, about 340 grams per capita annually.

I can only assume that if the 3.3 billion people who consume that 340 grams could afford to do so, they might wish to use a bit more butter -- let's say a kilogram each? To meet that increased demand would require a little less than 2.2 million tons of butter, almost double the current world trade in the commodity. Instead of squabbling over who gets what share of today's market, should we not be finding the ways to ensure that tomorrow's market is far larger?

The "surplus" of world dairy commodities is only a surplus as long as much of the world's population can't afford those products. It is, therefore, in everyone's interest that they be able to afford them -- and as

rapidly as possible. By using today's agricultural surplus as food aid for investment, it should be possible to help build the agricultural economies of those vast sections of our world that are poor, advancing the day when they become buyers instead of borrowers or beggars.

Unfortunately, today there are ominous clouds on the horizon. There are those who believe that the rapprochement between East and West signals a decision to realign the North against the South. In a world with finite resources and growing populations, those of short-sighted vision may try to erect a fortress to protect their disproportionate share of the world's wealth, a share I might add that was often garnered through exploitation and the expropriation of other nations and peoples.

Such a confrontation between North and South would be both tragic and unnecessary. Particularly when we still posses sufficient time and resources to rebuild the economies of the world's poor nations, helping them to become self-reliant partners in a far stronger world economy. Food aid, as an investment, should be a major strategy in that effort.

It is said that the dairymen of the industrial nations are very effective lobbyists. How else to explain how a handful of men and women have managed to ensure that their governments protect and advance their interests, often at substantial costs to the national exchequer? Let me then propose that these skills be employed on behalf of the world's poor, not simply to alleviate their suffering, but to enable them to become productive members of a stronger world economy, a world economy where production need not be restricted because three billion consumers cannot afford to buy what they need.

Food aid has played a very important, indeed a critical role in the development of India's dairy industry. Food aid can and should play an equally important role in building the dairy industries of other Asian countries, in Africa and Latin America. During the generation that it will take to achieve this goal, this food aid will offer an outlet for the productive capacity of the major dairying nations. It will provide the time, if needed, for a gradual, orderly and rational restructuring of those

nations' dairy industries -- not the brutal, chaotic and immoral measures we have seen in the last few years. The costs will be marginal; the returns beyond measure.

Let our goal be the ability of each nation to feed itself. By that I don't mean that each nation needs to produce all that it consumes, but that each will produce enough to ensure that what is not available can be purchased. Nor do I mean that a nation is feeding itself when large segments of its population can afford only the barest minimum. A nation is feeding itself when the nutritional requirements of all is men, women and children -- especially its children -- are fully met.

Let those among us that have -- or which can produce a surplus -- sit together with those that are as yet unable to fully feed themselves, and let us evolve a plan in which surplus food will be used as an investment to increase the production and productivity of those presently in need.

Let us plan, produce and channel surplus to meet the requirements of countries in need -- not haphazardly dispose of the occasional excess.

Let us plan and commit resources over the span of a generation, sufficient time to ensure genuinely sustainable results.

Let us jointly examine and agree upon the types of policies and programmes that serve a world in need, not the interests of a few. Let us agree that food aid investment serves the interests of both donors and recipients and commit ourselves to the highest standards of quality, continuity and integrity -- not only in commodities but in all our efforts.

In the past, through support of Operation Floor, the world's dairy industry has pioneered the use of food as investment. Let that pioneering step be but the first of many in which the world's dairymen show the world the way to use the fruits of our labour to benefit mankind. I can assure you that India is prepared to commit our experience, our human resources, and to the extent we can, our own commodities, to achieve this

goal. This is the way we would like to salute those who helped us herald the white revolution in India.

Thank you.

Prof. Bal Dattatraya Award Lecture 1990

Food Aid and International Agricultural Development: The Agenda for the 1990s

New Delhi
December 12, 1990

When I first heard from Prof. M.M. Sharma that the Indian National Science Academy proposed to honour me by conferring on me the Bal Dattatraya Lecture Award, I was delighted. However, I must admit that my happiness was tinged with apprehension. I have wondered since if I really deserve the honour. Even today, I must confess that I feel somewhat dwarfed in the presence of such a distinguished gathering of scientists and scholars.

For I am not a scientist myself, although I had wanted to become one 40 years ago. As a matter of fact, I was well on my way to becoming one, and a pretty good one at that. But life has its secret ways of nudging one in unforeseen directions. And soon after returning from abroad with an American degree, I found myself mixed up with the farmers of Kheda District in Gujarat. My scientific career was thus summarily terminated; and instead of spending my life in laboratories and classrooms, I ended up working for farmers.

I have never regretted this. And, to be frank, given a choice, I would not trade one moment of a life devoted to the service of farmers for a lifetime as a scientist. In point of fact, I believe that I have been able to do more for science as well as for development by helping farmers to create organizational structures that put modern science and technology -- the main instruments of development -- in the hands of the people.

Therefore it is that, when I received this invitation from Prof. Usha Luthra, I was wondering what could a man like me say to a group of eminent scientists which they may find significant. After much debate, I decided on the wiser course: rather than talking about science about which all of you know far more than I do, I thought I might talk on the

linkages between food aid and economic development, a subject about which I perhaps know more than most of you do.

1. The Rise of an 'Indian' Dairy Movement

In the years after India's independence, the Government of India experimented with a number of different approaches to developing our national dairy industry. There were milk colonies, government dairies, intensive cattle development programmes, key village schemes. It seemed, however, that all these programmes succeeded in increasing was the number of bureaucrats employed to run them. As time passed, our milk production stagnated and per capita consumption of milk began to decline at a precipitous rate.

On this rather bleak landscape there was one notable exception: this was a cooperative enterprise started by some men of vision, ability and principle, an enterprise that linked the tremendous productive genius of our farmers to professional management and modern technology. It was my good fortune to be associated with this enterprise from an early stage.

In 1964 our second Prime Minister, Shri Lal Bahadur Shastri, visited this enterprise in the small town of Anand in Gujarat. He spoke with the farmers, looked at their fields and at their animals. What he concluded was that what had made Anand a success was the fact that the farmers themselves had control over their cooperative and that they had the wisdom to employ competent professionals to manage that enterprise for them. He, therefore, decided that we should try to create Anands throughout India. To this end the National Dairy Development Board of India was created.

When we started out in 1965, we had a reasonably clear idea of how to proceed with the creation of Anands. But we had few resources with which to work. It soon became clear that the bureaucrats and technocrats who controlled all those government dairies, milk schemes, cattle development programmes and veterinary departments were not at

all anxious to surrender their empires in order to work for a bunch of farmers. At the same time, we were becoming increasingly concerned as we watched mountains of butter and skim milk powder growing in Europe. It would only be a matter of time before those mountains were exported to India. Had that happened it would have tolled the death knell for our nascent dairy industry.

Fortunately, some men of vision collaborated with us to transform those mountains from a threat to an asset: initially with the support of the World Food Programme and then, directly with help from the European Economic Community, we were able to use food aid as an investment in the revival of dairying in India.

That investment of food aid, later combined with World Bank assistance, has produced results. Today more than six million families participate in a dairy cooperative structure that covers much of India. Milk production has increased substantially as has our per capita consumption of milk and milk products. In 1989, our production had reached a level where we could decline such assistance this year. Save in the event of severe natural calamity, we hope that we have now reached the point where we shall no longer require such donations. In fact, I suppose that it is no secret that this year we have made a modest entry into the export market.

More important than increasing the availability of milk, Operation Flood has meant a reliable source of income for millions of our rural people. For many, dairying has become their primary employment. In fact, the success of the cooperatives has increased employment in every area of the dairy industry, from equipment manufacture to marketing of products. I believe today that milk stands second only to rice as a source of agricultural based income in India.

The success of Operation Flood in dairying has led to its adaptation and application to oilseeds, horticulture and even forestry. Although these are still in a relatively early stage, the results are also quite encouraging.

In fact, all our experience has convinced us that food aid can -- and should -- be used as an investment.

2. Food Aid as an Investment

Donors generally approach food aid with a mixture of interests and motives. Certainly there are humanitarian concerns involved -- the desire to alleviate the misery and suffering of one's fellow men, a motive that may also reflect a sense of guilt over having contributed to creating the conditions in which those fellow men suffer. Donors also use food aid to bolster their political relationships with the recipient; as a means of disposing the surpluses created by their own farmers; and as a strategy to develop future markets. It is hoped that today's recipient of largesse may become tomorrow's buyer of the same product. I think you will find all of these interests incorporated in the legislation that various donor countries have enacted on the subject of food aid.

Recipients, too, approach food aid with a variety of motivations. In some instances, faced by natural or man-made crises, food aid is requested in order to save the lives of those affected. In other instances abundant supplies of aid mask the failure of a government's agricultural polices and help to constrain what might otherwise become very high food prices -- particularly in the urban areas -- which seem to be the focus of concern for most governments; quite possibly because politicians and bureaucrats generally live in cities. Another motive in seeking and accepting food aid is to provide nutrition to what we call the "weaker sections" of a population, those urban and rural poor who cannot afford an adequate and balanced diet.

These various donor and recipient interests tend to be expressed primarily in two types of food aid programmes: emergency assistance and humanitarian relief.

In the case of emergency relief, food may be a vital necessity to stave off the results of natural disasters such as droughts, floods, earthquakes, cyclones and the like. In countries whose citizens live on the

thin edge of survival, such assistance can prove the difference between life and death for thousands, or even millions, of those affected.

Food aid may also have practical and humanitarian importance in the medium- and long-term alleviation of hunger and malnutrition. Here, too, it may be vital to the well-being of its beneficiaries.

However laudable such programmes may appear, and as politically defensible as they are for the donor governments concerned, there would appear to be mounting evidence that the results are not all that is desired -- whether viewed from the perspective of the donor or the recipient.

First, we have seen that large supplies of food, whether as emergency relief or humanitarian assistance, can often trigger a cycle of dependency. Because the food is readily available -- both to the hungry and to the governments who are responsible for feeding them -- inadequate efforts are made to identify and correct the problems that require external assistance in the first place. I am told that today in India -- and I expect in other parts of the world as well -- the children and even the grandchildren of the original "beneficiaries" of feeding programmes continue to rely on such donations.

Second, the availability of free or heavily subsidized food will depress domestic prices to the point where it is no longer feasible for the local farmer to compete. As you can imagine, this simply exacerbates the problem that triggered the need for food aid in the first place.

Third, we are told that there are instances where consumer preferences for donated cereals and processed foods have displaced local foods from the diet, again at the cost of local self-reliance.

I believe that there have been any number of studies done by economists and social scientists (may their tribe perish -- they are never there, where the action is), studies that have highlighted these types of problems with the use of food aid for emergency relief and humanitarian

assistance. Despite these, the lion's share of such assistance continues to be directed to these uses.

There is a third use of food aid: food as an investment in the production, processing and marketing of food. In this way food can be used to eliminate the need for such aid in the future.

However, I must add a note of caution. Using commodities as an investment in development is not a panacea. Our experience has made it clear that there are a number of important conditions that must be observed if such an approach is to prove a success.

The first condition is that we create producer-owned and controlled structures. These enterprises return a far greater share of the consumer price to the farmer. They build markets, supply inputs and create value-added processing.

All this happens because the farmers' productive capacity is linked with professional management in cooperative organizations that have staked out a place in the market. Put bluntly, these structures force others in the dairy business to compete fairly and they turn the terms of trade in favour of the rural producer.

When producers have such structures at their command, we know that they have the means -- and the will -- to ensure that the results of science and technology reach all those who will benefit. It is only when such structures exist that farmers gain the confidence necessary to stimulate their investment to increased productivity. It is only when such structures exist that farmers can demand -- not beg for -- the services and inputs they need to realize returns on that investment.

Let me share the greatest lesson we have learned: we must respect and trust our farmers. They may not be educated, or even literate, but they possess uncommon sense and even uncommoner wisdom. Time and again they have shown the ability to rise above narrow self-interest to act together in pursuit of a greater good. Programmes and

projects that are designed and managed from the top down -- that call farmers "targets" -- and that ignore the untapped capacity of rural producers to manage their own affairs, such programmes invariably fall short of their goals. Those that respect the right of the farmer to manage his own affairs cannot fail.

It is not enough, however, to use food aid as an investment and to promote farmer-controlled enterprise. Such structures must operate in a social, economic and political environment, one that may extend well beyond national boundaries. Therefore, a concerted effort must be made to ensure that this environment includes the programmes and policies that encourage and support development. Pricing, import and export regulations, taxation, investment terms and conditions are among the many such policies that must be coordinated in an overall approach in support of food aid.

The donor, too, has a role to play in ensuring the success of food aid as an investment.

The first point concerns quality. Unlike emergency relief and humanitarian programmes, food aid as an investment requires that consumers pay for the food. In order to ensure that local prices are not depressed, the consumer must pay as much as he would if the food was produced locally. This means that the quality of the commodity must justify such prices: in other words, food aid for investment must be of the finest quality.

Second, building an industry from basic infrastructure to production through marketing takes time. It takes even longer if a strong producer-owned structure is to serve as the foundation. This requires donors to think in terms of time frames quite different from those to which they are accustomed. A programme of Operation Flood's magnitude may require two decades; others, somewhat less ambitious, may require only seven, ten or twelve years. What is critical is the continuity of the support. Once commodity assistance is provided, it must be committed for the duration.

This means that food aid as an investment must be insulated from short-term problems of supply and from political exigencies.

3. Food Aid as Development Investment: Constraints

Twelve years ago at a meeting of the International Dairy Congress, I suggested that the overriding objective of all aid should be to eliminate the need for aid and that the use of food aid as an investment would seem to be the most likely way to achieve that objective. I then asked the delegates, "Why is it that food aid has rather seldom been used as an investment?"

I wish that, today, I could say that food aid is now widely used as an investment. Regrettably, I cannot. While we have successfully used food aid as an investment for Operation Flood, and with other commodities for other projects, there would seem to be few other examples of such uses of food aid elsewhere in the world, or even in India. This is despite the fact that each year we receive visitors from every corner of the globe, visitors who want to attempt what we have achieved in Anand. Each year we receive invitations from several of these countries and, to the extent we can, we send our officers to provide advice. But, without food as a resource, little can be achieved. So, in 1990, I must again ask why food aid is not widely used as an investment?

One explanation that comes to mind is that our very success in using food aid may have caused donors to have second thoughts. Several donor countries not only explicitly include market development as a rationale in their food aid legislation, they have also placed restrictions on economic and commodity assistance that might help the recipient to become self-reliant or, heaven forbid, a competitor. So I must ask myself the question: has India, by making a success of food aid -- that is, by eliminating the need for such aid -- prejudiced the chances of other countries to do the same?

A second explanation that has been advanced is that the great mountains of butter and skim milk powder are no longer there.

Government programmes to buy herds, to limit acreage, to penalize productivity, have all combined to bring supply into closer balance with demand, sufficiently close to end surpluses and, if you will, nudge prices up a bit. While there is no denying that such programmes have been implemented, there is apparently also no denying the will of the farmer to produce. And so, I am told, once again mountains of butter and powder are beginning to rise.

A third explanation is that foreign assistance is never popular with domestic political constituencies and that it is far easier to convince a skeptical public of the need to support programmes to feed starving people than to explain and defend the intricacies of food as an investment. There are few politicians, it seems, willing to honestly admit to the fact that all official development assistance represents only a small fraction of total resource transfers between rich and poor nations and that the flow of those transfers continues to move from poor to rich.

4. An Agenda for the 1990s

Whatever be the reasons, I believe that we must take a broader and longer view. We can no longer afford to do otherwise.

We have enjoyed a decade of "almost enough". Just enough to cause complacency. If there has been a bit of hunger in the Sahel, then, we have patched it up by holding a few concerts and sending a few shiploads of food.

We are now looking at a far more difficult decade, one that will cause many a rude awakening. The world faces a grave agenda: poverty, hunger, reemergence of oil as a source of crisis, deteriorating environments, growing populations, new and dreadful diseases.

There is a hunger in today's world. If India is self-sufficient in cereals, it is because a significant portion of our population can only afford to buy very little. The same must be true of many other countries. Even in the industrial nations the hungry exist in growing numbers.

Yet, in the face of hunger we see the governments of some of our most productive nations adopting policies and programmes to reduce production of food. Commodities available for donation, and even for sale, have diminished. This has not only reduced world supplies, it has caused hardship to the producers and consumers of the very countries that have adopted such policies.

What must be the effect on the farmer who is told not to achieve excellence, who is bribed to do less than his best? Knowing, as I do, the enormous benefits that result when food is used as an investment, I feel all the more strongly that to restrict production in a world with hunger is wrong -- even immoral.

And, I might add, it is ill-considered and short-sighted.

Agriculture is important to the economies of even the most advanced nations. The export of agricultural products is critical to the health of the economies of countries like Canada, the United States and Australia. Many of these nations have "invested" a great deal in building commercial markets through commodity assistance. Yet, by creating and reinforcing dependency, they have ensured that the recipients of their support remain unable to afford the products they wish to sell.

To compound the problem, we see national governments spending vast sums to take land and animals out of production. This has driven up the price of their commodities. So they spend even greater sums to bring the price down to compete with other exporters who have done precisely the same things. And the next thing we know the IMF and World Bank start talking about "comparative advantage" and telling us to liberalize and rationalize our economy! Comparative advantage, it seems, is having the resources to subsidize both producer and export prices.

So, we have a situation today where the poor nations of the world are gripped in a cycle of poverty and debt which is unwittingly reinforced by the policies and programmes of the wealthy. But the wealthy find that

in order to sell to the poor, they have to either subsidize the price or simply donate more -- either action simply reinforcing the same cycle of poverty with the only difference being that each year the number of poor grows, increasing the misery and raising the cost of its alleviation. Where does it all end?

Today, the per capita consumption of butter in Europe and the Soviet Union is more than four kilograms annually. Pakistan's citizens consume just under three kilograms per head; Canadians and Americans consume around two kilograms; we Indians divide our butter up at the rate of about one kilogram for each of our 844 million. The rest of the world consumes, on an average, about 340 grams per capita annually.

I can only assume that if the 3.3 billion people who consume that 340 grams could afford to do so, they might wish to use a bit more butter -- shall we say a kilogram each? To meet that increased demand would require a little less than 2.2 million tons of butter, almost double the current world trade in the commodity. Instead of squabbling over who gets what share of today's market, should the nations of the world not be finding the ways to ensure that tomorrow's market is far larger? The "surplus" of world dairy commodities is only a surplus as long as much of the world's population can't afford those products. It is, therefore, in everyone's interest that they be able to afford them, and as rapidly as possible. By using today's agricultural surplus as food aid for investment, it should be possible to help build the agricultural economies of those vast sections of our world that are poor, advancing the day when they become buyers instead of borrowers or beggars.

Unfortunately today there are ominous clouds on the horizon. There are those who believe that the rapprochement between East and West signals a decision to realign the North against the South. In a world with finite resources and growing populations, those of short-sighted vision may try to erect a fortress to protect their disproportionate share of the world's wealth, a share that was often garnered through exploitation and the expropriation of other nations and peoples.

Such a confrontation between North and South would be both tragic and unnecessary. Particularly when we still possess sufficient time and resources to rebuild the economies of the world's poor nations, helping them to become self-reliant partners in a far stronger world economy. Food aid, as an investment, should be a major strategy in that effort.

The dairymen of the industrial nations are very effective lobbyists. How else to explain how a handful of men and women have managed to ensure that their governments protect and advance their interests, often at substantial costs to their national exchequer? I have proposed to them that these skills be employed on behalf of the world's poor, not simply to alleviate their suffering, but to enable them to become productive members of a stronger world economy, a world economy where production need not be restricted because three billion consumers cannot afford to buy what they need.

Food aid has played very important, indeed a critical role in the development of India's dairy industry. Food aid can and should play an equally important role in building the dairy industries of other Asian countries, in Africa and Latin America. During the generation that it will take to achieve this goal, this food aid will offer an outlet for a gradual, orderly and rational restructuring of the advanced nations' dairy industries -- not the brutal, chaotic and immoral measures we have seen in the last few years. The costs would be marginal; the returns beyond measure. This, then should be the agenda for the nations of the world as we approach the 21st century:

Let the goal be the ability of each nation to feed itself. By that I don't mean that each nation needs to produce all that it consumes, but that each will produce enough to ensure that what is not available can be purchased. Nor do I mean that a nation is feeding itself when the nutritional requirements of all its men, women and children -- especially its children -- are fully met.

Let those nations that have -- or which can produce a surplus -- sit together with those that are as yet unable to fully feed themselves, and

let both evolve a plan in which surplus food will be used as an investment to increase the production and productivity of those presently in need. Let there be a plan to produce and channel surplus to meet the requirements of countries in need -- not to haphazardly dispose of the occasional excess.

Let nations plan and commit resources over the span of a generation, sufficient time to ensure genuinely sustainable results.

Let nations jointly examine and agree upon the types of policies and programmes that serve a world in need, not in interests of a few. Let there be agreement that food aid investment serves the interests of both donors and recipients and a commitment to the highest standards of quality, continuity and integrity -- not only in commodities but in all our efforts.

In the past, through support of Operation Flood, the world's dairy industry pioneered the use of food as investment. It is our hope that their pioneering step will be but the first of many in which the world's dairymen showed the world the way to use the fruits of their labour to benefit mankind. On our part, we in India are prepared to commit our experience, our human resources, and to the extent we can, our own commodities, to achieve this goal. This is the way we would like to salute those who helped us herald the white revolution in India.

Sardar Patel University

Convocation Address

33rd Annual Convocation
December 15, 1990

Mr. Vice Chancellor, Dr. Ramniklal Doshi, Members of the Senate of the Sardar Patel University, Members of the Faculty, Alumni and Students of the University, Ladies and Gentlemen...

I find myself in what is, for me, the happy situation of filling in for your original commencement speaker. It is a happy position for me because of my profound respect for the man who inspired this university, Sardar Vallabhbhai Patel. I am delighted to have the opportunity to speak to you of his many contributions. I am also pleased to be with you as it affords the chance to speak to you about education, one of our most important priorities. Having had something to do with the Gujarat Agriculture University, the selection of Vice Chancellors and such, it has been possible for me to view education at close quarters and to form some conclusions about its aims and objectives. This address provides me with the opportunity to share some of those thoughts with you.

Before I speak on the subject of education, however, let me turn first to how it is that this place became the first in our country to have a rural university. It was, quite simply, the result of the vision of Sardar Patel and his ability to select men of character and ability to realize that vision.

As the reality of our Independence drew near, Sardar Patel recognized that it was not simply a fruit to be enjoyed: rather, freedom was an opportunity which would require effort, intelligence and commitment to exploit. Sardar Patel also recognized that our people lived in our rural areas not in the cities and towns and that they, most of all, needed institutions that would serve their needs, that would equip them to build our nation.

Therefore, the farmers of Charotar would need institutions that would meet their needs. It was this inspiration that led, first, to the creation of an institution we know as the Gujarat Agriculture University. It was to Dr. Maganbhai Patel that the task of building that institution was entrusted.

Next to agriculture there was the need for an institution that harnessed engineering to the needs of our rural areas. Sardar Patel recognized the unique genius of an engineer who had truly practised such rural engineering. And so he persuaded Bhaikaka to leave Ahmedabad and come and stay at Vallabh Vidyanagar. Not only did Bhaikaka build an engineering college, he convinced the farmers of Charotar that they should also have a science college. This, too, was built, leading ultimately to the university from which you are graduating today.

There was one more institution inspired by Sardar Patel, one that would provide both our farmers, and their children who graduated from this university, with an opportunity to build and to serve. That institution was the Kaira District Cooperative Milk Producers' Union. Here was a business, owned by our farmers, with the benefits of that enterprise returning to them, not to shareholders in distant cities. Graduates of Sardar Patel University -- along with young men and women from other universities -- have worked to help our farmers make the most of this enterprise.

Reflect for a moment on the genius that inspired this happy network of institutions. Sardar Patel realized that ours is a rural nation and that our future depended on the strength of our farmers. He inspired institutions that would serve the farmers' economic interests as also institutions that would prepare their sons and daughters to lead those institutions in the future. If only other parts of our nation had followed a similar path, perhaps our progress would have been far greater than it has.

Sardar Patel's vision offers us far more, however, than a prescription for economic growth. It speaks eloquently to the real purpose

of education: to create good citizens who possess the idealism and the skills to serve our nation. What, then, would Sardar Patel think of today's educational system? Have we followed the path he blazed, or have we strayed far from his vision? Are we, today, producing an educated elite who will lead us to a brighter future, who will work with commitment to help those less fortunate than themselves? I fear that we are not.

I would ask those of you who will receive degrees today to look for a moment into your hearts. You are part of a small, privileged elite. Of those who could have entered school with you some 15 years ago, many never crossed the threshold of a classroom. Many more fell by the wayside as economic and other compulsions forced them to begin the effort to survive, before they were fully prepared to do so. Those of you who are here today represent a small handful of our nation, blessed both by your own efforts and by good fortune. But ask yourself, is that good fortune only for you to enjoy, or as a member of our privileged elite do you have an obligation to contribute your skills in some measure to the benefit of others?

From what I have seen, the purposes and methods of education have suffered a serious decline. For many, the sole purpose of education is to get a job. The methods adopted are often not those of the scholar. In fact, can the serious scholar compete with those why buy an examination paper or bribe an examiner? Each year at examination time our newspapers are filled with stories about leaks of this exam and the theft of that one. If we can believe what we read, even the civil service examination is no longer safe from such depredations. Is this, then, an education system that is producing men and women of character, idealism and ability to build the India of our dreams?

I am told that there is a reason for this decline in our educational system and that reason is unemployment. It would seem in our country there is a problem of supply and demand: our supply of job seekers falls far exceeds the demand for their services.

Despite the best efforts of our business enterprises, we produce more graduates than can be employed in making steel, building ships, constructing buildings, roads and bridges. Even producing and selling lipstick and soap seems to have their limits when it comes to creating jobs.

Our government has done its best to fill the void. We have government jobs throughout the length and breadth of India, in the village and in the South Block, and everywhere in between. There is no doubt that many of these jobs are quite attractive: they offer a salary without the onerous responsibility of work. The authority of government can often be advanced to earn a considerable additional income on the side. Perhaps for these reasons some of the very skills learned in our educational system prove useful in selection for such jobs. And perhaps this explains the tragic events that ensued when it was thought that what amounted to a few tens of thousands of such jobs might be reserved.

It is my concern with this that leads me to point out to you that not all jobs are to be found in government and industry: not even all good jobs. If I may, let me speak a bit about my own experience, if only to suggest that there are other paths to be taken.

More than four decades ago I sat, as you sit today, awaiting a degree. In those days we were an even more fortunate few who had access to a good education in modern science. It was the dawn of Independence and we were full of hopes. Each of us looked forward to the chance to make a real contribution to a free India. Most important, we had learned -- rich and poor alike -- that by pooling resources, by standing together, we could succeed at anything. Had we not, by uniting, overthrown the awful yoke of our oppressor?

My own expectations were raised further when I was selected as one of the 500 graduates to be sent abroad by the Government for further technical education. When I returned, a Masters degree in hand, I was confident that I was about to begin making important contributions to our new India.

You can imagine my dismay when I learned that the Government of India had posted me to work in an experimental creamery located in a dusty little town of 15,000 souls, deep in the countryside, some 400 kilometers from Bombay,. While it was true that I had been sent abroad to study dairying, I had managed to combine this with a more intensive effort in metallurgical science, clearly a subject far more needed by a modern India. But, the Government was adamant: it was dairying I had been sent to study and it was dairying that I would practice -- at least for as long as my indentured service lasted.

When I arrived at my posting, I discovered that the town had three landmarks: the railway station; the creamery that was in my charge; and a rather large, famous private dairy that was famous for its butter. The dairy was Polsons and, as you might have guessed, the town was Anand.

Polsons was a rather dominant enterprise in Kaira District which was, even then, a fine milkshed. During the Second World War, when Bombay faced an acute shortage of milk, Polsons was given an exclusive contract to procure and ship milk to Bombay to supply the government's milk scheme. The contractors who procured milk for Polsons exploited the farmers of Kaira who became increasingly angry at the small share of profit that they received. Finally they had decided to go on strike and refused to supply milk to Polsons Dairy. But that, by itself, would not get them a better price. In fact, it got them no price. So they went to Sardar Patel who advised them to set up a cooperative to manage their own milk business. He asked one of his young lieutenants, Shri Tribhuvandas Patel, to work with the producers and to help organize the cooperative.

One of the problems faced by the cooperative was the lack of reliable pasteurizing equipment. Without it, the milk spoiled on the way to Bombay. So, I advised the cooperative that it should build a small, modern pasteurizing plant. At that time all such equipment had to be imported, a process that took as long then as it does now. So, by the time the equipment was finally due to arrive I had managed to get relieved of my responsibilities at the creamery and was happily awaiting my return to

the glamour and excitement of big city life. It was then that Tribhuvandas came to me and pointed out that having talked the cooperative into investing in an expensive piece of equipment, I was now abandoning them before it had been installed and commissioned. After negotiating for some time, we agreed that I would stay on for a few months as Manager of the cooperative until the new plant was on its feet. That few months continues until today.

I have told you this story because it illustrates a very important lesson: opportunities, both big and small, come to each of us. It is up to you to pick one and to make the most of it. In my case, an opportunity I had viewed with disdain has given me a cause to live and fight for -- a life filled with its struggle, and with sorrows, but also with immense satisfaction.

Who could have imagined four decades ago that AMUL would be owned by 350 thousand farmers? That it would employ more that 2,000 people, including some of our country's finest professionals? Or that it would become a household name in every corner of India?

And that's not all. What began in Kaira District has spread to every milkshed in India and involves more than 70 lakh farmers. Today, the Kaira District Cooperative Milk Producers' Union is the model for development programmes in India and around the world.

As you get ready to leave academic life and begin your careers, look around you. Is there really an unemployment problem? Are the only jobs those offered by government and multinationals?

I am not suggesting that each of you can, or should, choose to work for a farmer-owned enterprise. In fact, there are many drawbacks involved in working for farmers. I can tell you that they can be very demanding. If a Government veterinary doctor isn't available, they take that for granted. However, when the veterinary doctor is the farmers' employee, then they expect the highest standard of professionalism and

commitment. It's not a job for the lazy or the fainthearted. It is a job for those who want the satisfaction of an important job, well done.

Our cooperatives are proving something very important: the country's farmers do not have to live on promises. They can build institutions that meet their needs, that provide them with the best scientists, the best inputs and the best services. These institutions also offer an opportunity for our finest young men and women to work directly for and with our farmers, without the barriers of bureaucracy and free of an urban-oriented Government and all the self-protective mechanisms which our elite have constructed to preserve their privileges.

Our world is changing rapidly. As you leave this university you will face life's realities. It will be easy to adopt the cynicism and callousness that passes for sophistication these days. I would argue that this can only lead to a life of bitterness and small satisfaction. Instead, let me urge you to keep your eyes open for the real opportunities, the chance to contribute, in however small a measure, to building a strong and just nation.

Years ago fate offered me an opportunity. I took that opportunity and have been rewarded beyond measure. I hope that for some of you, at least, similar opportunities will arise and that you will seize them. That some of you will recognize and accept your responsibility, as part of our nation's fortunate few, to enter into a partnership with our rural people, helping to bridge the gulf that increasingly divides us. If a few of you -- even if one of you -- takes up such a challenge, then I shall feel that I have not done such a bad job today.

I wish you well.

SHRI M. G. KUTTY MEMORIAL LECTURE

Calcutta

25th July 1991

SOME VIEWS ON NATIONAL PRIORITIES

Mr. Chairman, distinguished guests, ladies and gentlemen.

It was kind of you to invite me to deliver the M.G. Kutty Memorial Lecture. Normally I might have pled “preoccupations with important matters” in order to have declined. As a dairyman from a small town in Gujarat, you will appreciate that public speaking is neither my forte, nor an activity that I often engage in. However, I have become increasingly concerned with some of the directions and priorities our country appears to be pursuing. It therefore occurred to me that this would provide an opportunity to express my own thoughts and to test them, if you will, against the critical judgments of this distinguished audience.

Any exercise to establish priorities must begin with the facts that our population is 70 percent rural; that as many as 48 percent of our fellow citizens live below the poverty line; and that we are growing at a rate of 16 million persons annually. Today, and for the foreseeable future, rural India's production is the foundation of our economy and international trade.

Measured by any standard other than that of rural India, our achievements since Independence have been great. But the growing support for farmers' movements is a distant thunder warning us of a gathering storm of rising expectations. We approach a moment of uniquely important opportunity and challenge. Posterity will measure us in terms of whether we succeed, or fail.

Any strategy for development must recognize:

(1) we cannot allow an unrestrained free economy. Our policies must include a socialist content responsive to the needs of the poor;

(2) neither can we afford an economy that panders to the needs of our affluent ten percent, nor err in creating consumer demands today that can only be met at great national cost tomorrow;

(3) our nation's two greatest resources are our people and our land. We must employ both with greater wisdom;

(4) we have allowed our urban population and organized labour to reap the lion's share of benefit from our progress, thus alienating the greater part of our nation and creating disincentives for building a strong, productive agricultural base. We must empower our rural producers so as to bring about a greater balance between our urban population and the legitimate needs of our rural sector.

Also central to any development strategy must be the recognition that when we have allowed our people to take responsibility, they have produced results. It is our farmers -- and only our farmers -- who are ultimately responsible not only for agricultural production but for the quality of life in rural India. It has been our fundamental and tragic error that we have crippled our rural structures and sought to replace them with bureaucratic ones. We must, therefore, systematically undo this damage and restore responsibility to our rural people.

Therefore, may I propose that we concentrate on the following priorities in order that we may improve the quality of life in our villages:

(1) We must first evolve a system of supporting agricultural production and marketing that is commanded by our farmers. What can be achieved has been demonstrated with sugar, milk, oilseeds, fruit and vegetables. A similar approach must be extended to other commodities as also to rural savings and credit.

Such a transformation can only be achieved if the legal and regulatory environment is freed from the crippling restrictions of an archaic and alien cooperative law. The Ardhanareeswaran Committee, formed by the Government of India to examine obstacles to cooperation, offered recommendations that provide a beginning to the creation of a legal and regulatory environment in which our cooperatives can flourish. The drafting of a new law and adoption by the states must be encouraged by extending tax exemption to cooperative organizations that meet the criteria of appropriate bylaws, elected leadership and professional management.

(2) The lessons of successful cooperatives can and must be extended to other central areas of rural activity such as education, health services, water and, most critically, electric power. The creation of rural structures commanded by those who use them, will restore responsibility and accountability to those who, alone, must have an uncompromising commitment to their effectiveness and economy. At the same time we must reorient higher education to produce skilled professionals with a commitment to our rural population, not individuals who seek to grow rich by selling perfumed soap or treating the ailments of urban affluence.

It is a pity that despite support from the Government of Gujarat and Gujarat State Electricity Board, the Central Electricity Authority has refused to approve the Kaira District Rural Power Cooperative experiment which would have demonstrated that reliable and inexpensive power can be produced and delivered to users efficiently and honestly. The experiment would also have proved that such power would be a catalyst to greater rural employment, cleaner and better water supplies and to improvements in the quality of rural life. Even if we are unwilling to proceed with such an experiment, we should at all costs avoid the continued creation of central authorities for power, each of which

generates massive employment -- but precious little power — for rural India.

(3) Our nation is blessed with vast arable land, a beneficial climate, and reasonably abundant water resources. Our production should be bountiful, our forests verdant and widespread. However, today we find only soils ravaged by ill-use. Our forests are depleted to the point of extinction. Our barren watersheds and fragile soils cannot retain our rain.

Therefore we must develop a national land and water management plan and the statutes to enforce it. We must find ways to allow public land to be given -- or sold -- to those who will cover it with grasses and trees. The cutting of established forests must be at a sufficiently high cost to compel adoption of alternatives. In every sphere of activity where trees are used, non-wood alternatives must be developed, introduced and, if necessary, promoted with incentives.

(4) We increasingly draft laws in such a manner as to benefit those who enforce, rather than those whom the laws are designed to protect. Our Prevention of Food Adulteration laws, for example, assume that all those who produce food are dishonest without exception, while all those who will enforce these laws are honest without deviation. We must examine all laws currently in force -- and those which are sought to be introduced -- to weigh their impact on the common man and to ensure that the machinery exists to enforce the law honestly and fairly. One area in which legislation has run rampant is our labour laws. These have produced over-staffed organizations in which management has virtually no way to enforce discipline. As a consequence we are producing goods that neither we, nor the rest of the world, can afford. Tragically, such laws compel increasing investment in capital intensive technology thus reducing the nation's employment opportunities.

It is essential that labour laws be reviewed to ensure that, in protecting labour, we do not exploit and discriminate against weaker sections of the population such as the farmer, rural artisan, the unemployed, the student, or the ill.

To initiate a corrective course, we must exempt essential services, educational, medical and farmer-owned institutions from the purview of the Industrial Disputes and Trade Union acts. Such an amendment has in fact been passed and assented to by the President, but has not been notified. In such a manner has Government annulled the intent of Parliament. Further, the right of security of service needs to be examined and diluted to bring it into conformity with such legislation in other parts of the world. The Labour Ministry should be redesignated as the Employment Ministry and its mission changed from protecting the jobs of those who have them to creating jobs for those who do not.

(5) That it is often repeated that our population is too large and grows too rapidly makes it no less true. We simply cannot afford to allow 16 million souls to be added to our numbers every year. A divisor that grows exponentially finally produces a quotient of zero. We must find the courage to implement a far more aggressive family planning programme. The methods are known: we must summon the will to employ them.

Education of women is, of course, the final answer to our population problem. However, as we cannot afford to wait until all India's women are educated, it is proposed that the marriage age be raised and that a single and universal marriage code be adopted: no marriage will be legally recognized unless registered before a civil authority on production of proof of age and the issue of any unregistered marriage will not be recognized by law with respect to property rights and inheritance.

(6) Today in the rural parts of our country, the word "Government" is a *galli*. Government is seen as an exploiter, not a

protector of the exploited. Our police are often the law and order problem, not the guardians of law and order. Both the bureaucracy and the police have intruded into every sphere of village life. This intrusion can be physical and direct; or through decisions taken by bureaucrats in state capitals or even in Delhi.

The time has come when we must reverse the proliferation of ministries, bringing order, coherence and discipline to our Government. We can no longer afford a system in which a half-dozen different entities can work at cross-purposes, and, at times, against the national interest. At the very least, the responsibility for activities such as the production, processing and marketing of, for example, milk must be brought under the aegis of a single, appropriate ministry: in this instance, the Ministry of Agriculture.

Quality, not quantity is what is required. Focused and purposeful action, not unfocussed activity, is needed. Problems are solved by the people involved, not by committees. That Government is best not that governs the least, but that applies itself to those areas of the national policy that are uniquely appropriate to Government. Let us then, rapidly and systematically, withdraw government from those spheres where our people can best manage themselves. We will then witness the unleashing of the extraordinary energy, intelligence and ability of our people which, alone, can and will propel us into a just, equitable and prosperous future.

Thank you.

Vallabhbhai Patel Memorial Lecture on Cooperative Marketing

Vallabhbhai Patel's Vision of the Indian Cooperative Movement

New Delhi
August 30, 1991

Distinguished Chief Guest, Chairman of NAFED, invited guests, ladies and gentlemen,

I am delighted and honoured to have been invited to deliver the first Vallabhbhai Patel Memorial Lecture on Cooperative Marketing. In instituting this annual lecture series, the National Agricultural Cooperative Marketing Federation of India has not only taken a major step in promoting thinking and discussion on issues facing our cooperative sector, but has also ensured that the ideals of Vallabhbhai shall, for ever, remain with us. In inviting me to deliver the first lecture in this series, you have done me great honour for which I remain beholden to you.

Vallabhbhai was a good friend of mine. He was a remarkable man. Some people who had known him found him abrasive to the point of rudeness. However many, like me, who shared his ideals and his commitment to the farmers of Gujarat, got to see the gentle side of his personality. This gentleness and our shared commitment to cooperatives forged a strong bond of friendship between us -- which continued even as he became a minister. So mature was our relationship that even after he became a minister, Vallabhbhai never hesitated in himself coming down to Anand whenever he wanted to meet me.

Vallabhbhai paid a price for his abrasive style and no nonsense approach to work. His political career was stunted in no small measure, by these traits of his personality. But Vallabhbhai was not the type who would want to build a political career by wheeling and dealing. He was a man of principles. He had an ideology and a vision of society through which he saw the world around him. Until the day he was brutally assassinated, Vallabhbhai fought for this ideology and strove to create institutions -- like the well-known Lodhika Cooperative -- that embodied his ideals.

Cooperatives and grassroots democracy on the ground occupied a large part of the canvas of Vallabhbhai's world view. It was to these that he devoted the bulk of his working life. A qualified lawyer himself, Vallabhbhai could have easily built himself a lucrative legal practice if he had so wished. But he decided, instead, to study cooperation under the guidance of Vajubhai Shah, a veteran of Gujarat's cooperative movement. When Vallabhbhai completed his studies, Vajubhai advised him, "What will you do as a lawyer? Instead, study the laws of cooperation and provide the advantage of your knowledge to farmers and to the public at large. Give a boost to cooperative activities." This then became the mission of Vallabhbhai's life. As someone who has been closely involved in Gujarat's cooperative movement, I can very confidently say that Vallabhbhai fulfilled this mission more than any man can do in a single lifetime. Gujarat has produced cooperative leaders of the stature of Shri Vaikunthalal Mehta. Vallabhbhai Patel certainly belonged to that class of leaders who put the interests of the society above their own.

India has the largest cooperative movement in the world. Over 10 crore farmers are members of one cooperative or another. If we consider the fact that creating institutional structures responsive to people is the most powerful vehicle for transforming traditional societies, this vast network of cooperatives could have become the foundation for building a strong and modern rural India. Unfortunately, we have all but missed this bus. Other than in a handful of sectors -- such as in dairying, oilseeds and sugar -- our cooperatives have not been able to perform the role that our great leaders like Pandit Jawaharlal Nehru expected of them. Instead, our cooperative movement has remained a weakling, perpetually dependent on donations from the government and unable to rid itself of the shackles of bureaucratic control and political meddling.

Our founding fathers had dreamt of an India convulsed by strong, democratic and member-controlled cooperatives. But during the last four decades, these dreams have often been dashed on the shoals of politics, bureaucracy and disregard of the fundamental principles of cooperation. What should have been a people's movement has been officialized,

bureaucratized, politicized and thus neutralized. There is nothing wrong if a political person serves as a cooperative leader — even as Vallabhbhai did — but it is certainly wrong when political purposes are advanced at the expense of the principles and goals of cooperation, something Vallabhbhai never did. There is also nothing wrong in a government officer serving in a cooperative; what is wrong is when there is no accountability to the members or when the members' desire for responsibility is denied.

The main culprit for this degeneration of our cooperative movement is our archaic Cooperative Societies' Act legislated 85 years ago by an alien government, whose aim was not to serve, but to rule. Long ago, some kindly Englishmen wanted some money lent to the peasants so that they wouldn't engage in rioting and general mayhem. So these Englishmen formed credit cooperatives. But lest the "natives" elope with the cooperatives' money, the British enacted a cooperative law that gave enormous power to the Registrar of Cooperatives, who had to be an Englishman since the Act specified that he should be a member of the ICS.

At the dawn of Independence, we slowly realized that being the cooperative movement of Independent India made no difference to our cooperatives. The Cooperative Act remained unchanged in letter, as in spirit. The "*gora*" sahib was replaced by the "brown" sahib, who -- enjoying the powers even to supersede elected boards of cooperatives -- began playing God to them. Worse still, the unscrupulous politician, whom the "*gora*" sahib had condemned as a native, now came into his own. With the control that he enjoyed over the pliable "brown" sahib, our archaic cooperative law proved to be a godsend for him: it enabled him to play boss to God -- a very pleasurable occupation indeed!

Naturally, all this has not helped the cause of building a healthy cooperative movement. When all that a cooperative had to do was to lend a few hundred rupees, it probably did not matter much. But this is not the case today. There are cooperatives in India with very substantial business operations -- such as, for example, the Gujarat Cooperative Milk Marketing Federation which has 1.5 million members and an annual turnover of Rs. 700 crores. Yet, the present law empowers a Deputy Registrar -- who is

often little more than a petty bureaucrat -- to play havoc with such a business simply because it is registered as a cooperative. Indeed, many more large cooperative businesses would have come up and placed our farmers in command of a modernizing agricultural economy were it not for the tyranny of our bureaucracy and the oppressive legal environment within which our cooperatives have had to function. Imagine what would have happened to Mr. J.R.D. Tata if the Registrar of Companies of Bihar had the same powers as the Registrar of Cooperatives. He would have simply superseded the TISCO Board long ago and appointed his Assistant Registrar of Companies as TISCO's Managing Director! Worse still, some minister would have just ordered his Registrar to supersede the Boards of all the companies in his state and replaced them with his cronies.

How can we expect our cooperative movement to flower in such an environment? This has to be stopped. The first step is to enact a new, enabling, cooperative law. And we must, in our new cooperative law, redefine the powers and responsibilities of the Registrar. The government must reduce its profile. If it cannot provide support and guidance, the least it can do is to get off the back of the cooperative movement. Cooperatives must be given the freedom to manage their own affairs. The new law must protect cooperatives from narrow political interests. It must recognize the roles, responsibilities and accountability of the professionals to the membership of the cooperative, for a cooperative that fails as an enterprise will also fail as a vehicle of service to its members. Our new law must not just allow -- it must require -- our cooperatives to freely elect their own leaders. A cooperative with an appointed Chairman and Board is no cooperative at all. What we need is a new Cooperative Act that embodies each cooperative principle and which enables our cooperatives to flourish. We need a cooperative law that is not based on alien values; we need a cooperative law that reflects our unique national genius.

It has been a matter of relief that in recent years there has been some thinking on the reform of our cooperative law. The Ardhanareeshwaran Committee Report has given expression to the concerns of those, like me, who have spent their lives working as employees of farmers. An even more recent committee, headed by

Chaudhary Brahm Perkash, has gone so far as to recommend that no Indian Administrative Service officer should be appointed as a Registrar of Cooperatives, whose job, in turn, ought to involve little more than registering cooperatives. It has also recommended that no cooperative shares should be held by the government. I was delighted to read the report which I thought represented a major step in the direction of liberating our cooperative movement from the clutches of the bureaucracy and restoring it to its membership.

However, I was disappointed that Chaudhary Sahib undid much of the work of his Committee and wounded the soul of its report in the covering letter with which he forwarded the report to the Deputy Chairman of the Planning Commission. That letter recommended that the government should create a new "Ministry of Cooperation". What will this new ministry do except to get into the hair of the cooperatives? In order to strengthen and revitalize our cooperative movement, what we need is less government, not more. What would help our cooperatives is the abolition of the existing Departments of Cooperation and not the creation of a new ministry. This, in my opinion, would be a retrograde step and antithetical to the very spirit of the proposed Model Cooperative Act.

In my 40 years in the service of our milk producers, I have had opportunities to visit many countries and to study their dairy industries. On the basis of this, I have come to the conclusion that the cooperative movement can flourish only if the profile of the government is reduced. In India, we have a Department of Cooperation in the Ministry of Agriculture; but numerous private dairies are set up in our cities. In contrast, in New Zealand, there is no Ministry of Cooperation, there is no Department of Cooperation, and yet all the dairies -- without exception -- are owned by cooperatives of milk producers. This proliferation of ministries and departments does not seem to me to auger well for the development of our country. Thirty five years ago, we had only one ministry dealing with food, agriculture, irrigation, rural development, cooperation, community development and so on. Over the years, there has been increasing tendency to create new ministries or departments -- mainly, in my view, to accommodate senior bureaucrats desiring posting in Delhi. Recently a

new Department of Animal Husbandry and Dairying has been created within the Ministry of Agriculture. I would not be surprised if in the near future we hear of a separate department for cows, one more for buffaloes, and so on. If multiplying ministries could have fostered development, India should have been the richest nation in the world by now. Fortunately the nation faces a financial crunch. I hope our new Finance Minister will seize this opportunity to abolish some of these departments and ministries.

When we look back at the historical evolution of our cooperative movement, many of us get dejected. Rather than inspiring and enthusing us, the state of our cooperatives often breeds despondence, helplessness and a sense of despair. If its past has been so disappointing, can the future of our cooperatives be very bright?

I, for one, believe that, yes, it can. I hold that cooperation, like democracy, is a value to be cherished. All we do to further the cause of cooperation, as of democracy, is an act of faith. If our experience with our cooperative movement has so far been unsavoury, our experience with democracy has not been all that happy either. In the name of democracy we have given birth to a soft state which is held to ransom by an organized labour that has usurped a larger and larger portion of the nation's economic cake while contributing less and less to enlarging the size of the cake. We have created a Frankenstein of a fattening bureaucracy which has, under the veneer of parliamentary democracy, arrogated unto itself the authority that no bureaucracy should ever have. Service to people is the long-forgotten ideal of the bureaucracy.

Our "brown sahibs." like their predecessors, the "*gora* sahibs", believe not in service but in ruling over our people.

Is this the democracy that we bargained for when we got Independence from colonial rule? Did we want a political apparatus where Parliamentary and Assembly elections are routinely won by distributing *daru* and other largesse and where booth capturing is the standard

operating procedure for getting a seat in Parliament? Did we bid for a democracy which is merely a guise for this politics of patronage?

And yet, this is what we have got. But does it mean that we should give up democracy? Someone has aptly said that the answer to all the problems of democracy is more democracy. In the same vein, the answer to all the problems of our cooperatives is more cooperation. Indeed, more cooperation could, in the long run, be a major answer to the problems of our democracy as well. Because it is through cooperatives that good, strong and committed local, state and national leadership can emerge.

The most crucial element in fostering both a strong cooperative movement as well as a strong democracy is honest leadership committed to democratic ideals. Regrettably, the only system through which people's leadership could so far emerge in our country has been the political structure and the parliamentary system. But this, clearly, is a very unsatisfactory situation since only those in search of power and affluence -- and not those pursuing lofty ideals and noble causes -- get attracted to this route. Money and power attract only the dregs of society; whereas, it is the nobility of causes and the spirit of service that bring out the best in man.

In my opinion, therefore, the ideal route for good leadership to emerge -- not only for our cooperatives, but also for our democracy -- would be to encourage a plurality of democratic institutions to undertake procurement, processing and marketing of rural produce. Our democracy will not sink into our lives and our collective psyche until our democratic institutions in Delhi and our state capitals are underpinned by numerous democratic institutions reaching down to our villages. A strong, member-controlled cooperative movement, freed from the present bureaucratic stranglehold, can provide a foundation on which we can rebuild our democracy.

It is for such a vision of our society that Vallabhbhai lived and died. If he had been alive today, he would have been a great force in realizing this vision. It is a pity -- not only for our cooperatives but also for our

democracy -- that a man like Vallabhbhai was assassinated in the prime of his life, something which has been happening all too often in our country in recent times. This is a warning to those, like Vallabhbhai, who stand for social change and strive to eliminate repression in society. We Indians must learn a stern lesson from such violent acts.

Strangely, in retrospect, I wonder if there could be a more fitting end for a man like Vallabhbhai. When he heard about the assassination of Gandhiji, George Bernard Shaw said that it is dangerous to be good. Vallabhbhai was a good man and fought, until he died, for noble causes. Is, then, there a more fitting end for a man like him?

Thank you.

8TH World Congress of Food Science and Technology

TOWARD A NEW WORLD ORDER

Toronto, Canada
September 30, 1991

Mr. Chairman, delegates, ladies and gentlemen.

I was deeply honoured by your invitation to address the 8th World Congress of Food Science and Technology. It is not that often that the chairman of a cooperative in India has the opportunity to speak to such a prestigious body. However, I must admit that in accepting your kind invitation, my pleasure was somewhat tinged with apprehension. It is a formidable prospect to speak to such a distinguished body of scientists, technologists and business leaders. All the more so when one follows a Prime Minister of such impressive oratorical skill. You will, I hope, forgive me if I fail to achieve those high standards. My experience is more in the line of collecting milk than of collecting votes.

There is a reason, however, why I put any doubts to rest and accepted the invitation to be with you here in Toronto: that is because I wish to share with you some of the concerns I feel, concerns that I hope some of you may share, or will adopt as your own.

We are passing through an extraordinary moment in history. It is seldom that man has witnessed the dissolution of an ideology, one that until recently was a major world force. At the same time we see old states reborn, an empire collapse into fragments, new nations emerge. The old equations no longer work; the new dynamics are still unknown.

While all of us should -- and I'm sure do -- rejoice at the easing of the tensions that have kept the world in an uneasy state during the years since the last great war, there are those of us who feel less than fully confident about the shape of things to come. I speak not of the possibility that some new nation or alliance may arise to threaten the détente that we now enjoy; rather I am concerned that behind this dramatic and momentous change in world affairs lies a disquieting premise with an

ominous conclusion. It may or may not surprise you to know that I believe this very much concerns the subject of this congress: food.

For those of you who come from the advanced nations of the world, particularly for those of the so-called West, it may be difficult to fully understand, much less appreciate, the disquiet some of us feel at the end to the Soviet Union's prominent role in world affairs. While, to many in the West the Soviet Union was viewed as a menacing, militaristic, totalitarian state, for many of us in the Third World, that nation provided a reassuring counter-balance. Power, unchecked by power, must be based on values and exercised with great wisdom, compassion and maturity. Seldom does history provide us with examples where this has been the case. Power, all too often, has bred excess. Unrestrained, the powerful can come, all too soon, to believe that might is right. The "New World Orders" of the past have carried within them the seeds of ethnocentrism, militarism and imperialism.

I spoke of a disquieting premise for the dramatic shifts that have changed our world. Those of us who live in the South could believe that *Glasnost* was, in fact, *real politik.* The resources of the world we live in appear increasingly finite, whether they are fossil-based fuels or even food. Could it have been the case that Mr. Gorbachev looked at this world of diminishing resources and asked: which side should we be on? With the haves, or the have-nots? Could not the choices he and his colleagues made be reduced to a single major geo-political shift: from East vs. West have we come to North vs. South?

This is, in our view, an unhappy prospect. While the world suffered from the tensions of East and West, those who were non-aligned, or slightly aligned, could take some comfort that those differences served to protect and even enhance our national self-interest. I do not feel that this was at all a bad thing.

Today, what seems to be emerging is a New Europe, stretching from Vancouver to Vladivostok -- with little outreaches to Australia and New Zealand. If this is the way in which our world is coalescing, then we

have a divide between North and South, a division based -- if I may put it quite baldly -- on colour. I believe that this poses many dangers to all of us who inhabit this world, whether we be black or white. It threatens a new imperialism. It would mean that one-fourth of the world's population would occupy three-fourths of its area while the remaining three-fourths of the world's people must make do on but one-fourth of its land. This basic fact, I would argue, is the reason we are poor. And, should we not ask the question: how much of this land was the historical home of its present population, and how much was forcibly occupied?

Today, as the shape of this New World Order emerges from the capitals of the West, we already sense far less tolerance for the differences that arise from the world's diverse historical, cultural, religious and ideological mix. We find it particularly unsettling when the leader of a nation as great as the United States chooses to define that New World Order in such terms as: "What we say goes." This does not seem a very elegant or inspiring vision of a New World. In fact, it is no vision at all. Not when a significant portion of humanity lives on the brink of famine. Not when hundreds of millions go to sleep hungry every night. Not when they sleep on a cold pavement, or in a crumbling shanty. Not when the clothes they wear are tattered and torn. Not when their children are unable to receive even the simplest forms of medical care and a basic education. We need -- all of us -- to ask whether our New World Order excludes this part of humanity.

We also need to ask whether what any nation "says" should simply be accepted because, at that moment in history, it has managed to arrogate a far greater share of the world's resources than have its less fortunate neighbours on this planet. I, personally, am concerned that this can lead to abuses that will ultimately prove self-defeating -- not only for the "haves", but for all.

Let me provide you with a simple instance. Recently one of the International Financial Institutions provided my Government with a set of recommendations as to how we ought reorganize our agricultural sector. One of these recommendations was that we should cease providing the

incentives that have been used to stimulate increased production of oilseeds. This was dressed up in some rather elegant economic terminology: it would seem that we lacked "comparative advantage" and were only carrying on with oilseeds because of significant "producer subsidy equivalents."

Now it so happens that our National Dairy Development Board has been involved for some time with oilseeds. I would even like to think that we have had some role in creating the market "incentives" that the International Financial Institution disliked. And so we took a close look at what was being said.

What we discovered was:

> The same report -- in a different section -- had noted that during the last decade oilseeds were the only major crops to show a production increase that exceeded trend and that increase was primarily due to increases in yield, not area. Comparative advantage is, after all, a matter of productivity. Were we not well on our way toward a comparative advantage?
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> The authors of the report looked at oilseeds simply as a source of oil. They neglected the fact that oilseeds are the source of protein in animal feeds. While they had -- and I must congratulate them for the excellence of their insight in this area -- projected massive increases in our milk production, they had ignored the fact that to achieve this our cows and buffaloes would need protein.
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> Neglecting the fact that my Government's acceptance of their recommendations would, no doubt, lead to a massive rise in per capita incomes, and with that growth a significant increase in the per capita consumption of vegetable oil, the recommendations "underestimated" our future cost of imports -- but only by a few billions here and there!

> Perhaps the most serious problem of all concerned our "producer subsidy equivalents". The economists of the International Financial Institution had developed a rather elaborate model with any number of sophisticated equations which they had run through their expensive computers. It suggested that we were providing a "producer subsidy equivalent" of about 12 percent. Well, naturally we were concerned. With a crop like oilseeds in India -- we are the world's largest producer of groundnuts, or what you call peanuts -- that comes to quite a bit of money. But then we discovered that the United States had a producer subsidy equivalent for soybeans that was 15 percent; and that in the European Economic Community, the cost of an oilseed is 67 percent producer subsidy equivalent.

We therefore concluded that we did lack comparative advantage: we could never afford to subsidise our oilseed farmers -- or any of our farmers -- to the same extent as can the EEC and North America. In fact, we understand that there are cases where the subsidies to producers are so great, that Governments then turn around and subsidise consumer and export sales. We certainly do lack a comparative advantage.

The point, however, is not whether the advanced agricultural nations should or should not spend enormous amounts in subsidizing agriculture. The point is that my Government was encouraged to make a major shift in its agricultural policy, one that would have serious implications not just for our food security and foreign exchange, but for the millions of our farmers who depend on oilseeds for their livelihoods. There were those who might go so far as to suggest that those changes were as detrimental to our farmers as they might have been beneficial to farmers in Europe and the Americas.

My Government did not accept that recommendation. But I fear that for every such recommendation that is not accepted, many others are adopted without the type of critical review that we insisted upon. Whether motivated by self-interest, or simply the result of their limited knowledge

of our situation, such recommendations can cause considerable damage to our economies and to our people.

Therefore, I would argue that a New World Order should be something far more than doing what others say. In fact, I would argue that any New World Order constructed on that premise will soon collapse under its own weight. There is, however, another way.

If I may, I would like to recount some of my own experiences as I feel that they may offer an illustration of what I shall then propose.

Almost 45 years ago I chanced to be sent by my Government to Anand, a little town in Western India. That was the price I was to pay for having been given a Government scholarship to study in the United States.

At the time I arrived in Anand there was little to relieve the drab landscape of a small town. The district in which Anand was located was a farming district -- but, at the dawn of our Independence -- it lacked even a single paved road to move produce to market. The only major enterprise in Anand was a privately owned dairy, one which thrived on selling milk to Bombay and products to the British Army. However, the profits of the dairy were linked to the very poor prices they paid to the dairy farmers of Kaira District and, ultimately, those farmers had decided to strike. Fortunately, that area of India was the home of one of our greatest leaders: Sardar Vallabhbhai Patel. Sardar Patel recognised that true independence is not simply political freedom, that our people would not be truly free until they were rid of the economic and social shackles they had worn from time immemorial. He had pointed out to the farmers of Kaira District that a strike would not solve their problems. They had to organise themselves in such a way as to take control of the resources they had created. He asked one of his finest lieutenants, Shri Tribhuvandas Patel, to help the farmers to organise themselves into a cooperative.

When I arrived in Anand this dairy cooperative was struggling for survival. As fate would have it, I was drawn into its efforts and, as it

turned out, I've never left Anand. For more than forty years I have been an employee of the farmers and, with them, have seen our enterprise grow.

When the cooperative began, its sole business was supplying milk to a Government milk scheme in Bombay. That scheme only wanted so much milk every day which meant that in the flush season our farmers produced far more than Bombay would accept. We solved that problem by building a dairy to make products. Now everyone -- including all the foreign "experts" -- told us that we couldn't make milk powder from buffalo milk. But we did. They told us we couldn't make condensed milk. But we did. They told us we couldn't make a good cheese. But we did. And by doing this we built a national market for our cooperative and established a brand name, AMUL, that my country's market research organisations say is better known than that of any of India's national and multinational firms. Better known than "Colgate", "Nestlé" or "Pepsi Cola".

As we built a market for our products, our farmers began to take dairying a bit more seriously. They began to ask that their cooperative provide them with feed. So we built a cattle feed factory that, today, is probably the largest in India. They said they needed veterinary services. So we created a programme that includes veterinarian's visits to each village at least once a week and which can respond within four hours to any emergency call. They wanted fodder seed. So we began to breed and produce fodder seed and to send extension workers to help our farmers grow good quality fodder.

Think for a moment about the changes that take place in a village when people create an institution that meets their needs.

People who are used to being supplicants find that they can employ professionals who bring science and technology to them. Will they any longer allow petty officials to push them around?

People who have not been taught the basic rules of hygiene see their dairy cooperative kept spotlessly clean. Will they not learn the value of keeping their own homes clean?

They see veterinarians who not only cure a diseased animal, but show them ways in which they can prevent disease. Will this not increase their trust of medicine, and be a catalyst for the better health care of their families?

They see the effect of balanced nutrition on the health and productivity of their cattle -- particularly for pregnant cows who, in our country, are not fed because they are not producing milk. Will this not have an effect on the nutrition of the family, particularly the diet of pregnant women?

They observe artificial insemination. Do they not learn that reproduction can be controlled?

They stand in line at their cooperative, each in the order in which he or she arrived, irrespective of status, of religion, of caste. They see their milk poured into the same can. Do not the divisions of caste, religion and community become submerged in the milk of that can?

Most important, each year they elect from among themselves individuals to lead their cooperative, producers who, in turn elect the leaders of their cooperative union and state marketing federation. Do they not learn the basic lessons of democracy, that people can seize control of their own destinies and hold their leaders accountable for their stewardship?

The success of the modest experiment that Sardar Patel started in Anand stood in a dramatic contrast to the various Government programmes in dairy development. That success led one of our Prime Ministers, the late Lal Bahadur Shastri, to suggest that we create Anands throughout India. I believe he asked us to do this not because we developed dairying and produced more milk; rather, he recognized that

true development is the development of man and that this can best be achieved by placing the tools of development in the hands of our rural producers.

We have replicated Anand. The Anand Pattern now extends to more than 160 districts in India with more than 7 million producer owners of some 70,000 cooperatives. Those farmers have produced a dramatic increase in our national milk production. Where we were once dependent on imported commodities for supply of milk to our cities, we are now largely self-sufficient. We even are able to export a modest quantity from time to time. Our per capita consumption of milk has almost doubled.

We have adapted and replicated Anand with other commodities: with oilseeds and edible oil; with salt; with trees; with fruits and vegetables. In all of these fields cooperation is having an impact on the lives of our producers and on our national production.

I should mention -- stress -- that the donation of food was essential to these efforts. At the time that we were asked to replicate Anand the first butter and milk powder mountains were growing in Europe. We knew that if those commodities were sold in our country, our farmers could never compete. The fledgling dairy industry we were trying to build would soon collapse in the face of such competition.

Fortunately, both in India and in Europe, there were men and women of vision who recognised that food could be used as a catalyst for the production of food; that food could be used to encourage self-reliance rather than crushing it. Therefore, first with the assistance of the World Food Programme, and then with the direct support of the European Community, we were able to use donated commodities to build our dairy industry. Those commodities helped our cooperatives to establish a market in our major urban areas; and they helped us to finance a project that today involves more than 7 million women and men throughout India.

Our efforts in oilseeds, fruits and vegetables and with our tree growers have also benefited from the use of commodities that have been

generously donated by the peoples and Governments of Canada and the United States. These have been very important to our success.

What are the lessons to be drawn from our experience? I believe the first and most important lesson is that we must trust the wisdom, the common sense and the enlightened self-interest of ordinary people -- just as we must distrust ourselves when, by virtue of our power and position -- we begin to believe that we know what is best for others. We have always chosen to give responsibility to our producers, knowing that people will act responsibly only when they hold responsibility. We have recognised that farmers entrusted with the leadership of a business enterprise will make mistakes. But we know, too, that they will learn from those mistakes. We have trusted in the democratic control of cooperatives, knowing that members will elect scoundrels, along with saints. But we know that only with democratic control can they rectify the mistakes they make.

The reason why we trust our farmers -- why we ***must*** trust our farmers -- is that they -- and they alone -- know what they need. They know what is possible today, and what must be deferred until tomorrow. They know what is really important for them. Therefore the decisions they take -- while we may often disagree with them -- are likely to be far better than those that others, more educated and better trained, might make for them.

If I may, let me offer a few simple examples.

When I began my work in Anand, the women of Kaira District all used to cook their cottonseed and feed it to their buffaloes. They claimed that when fed cooked cottonseed, their animals produced milk with more fat and that the clarified butter -- *ghee* -- they made from that milk was superior.

Now I was a scientist, trained at the best universities in India and the United States. I *knew* that a balanced feed was what our cattle required. And so we built the finest, most modern cattle feed plant in India. And we produced for our farmers the finest, least-cost feeds

available in India. And we convinced our farmers to stop the "wasteful process" of cooking their cottonseed.

Thirty years later we have learned that cooking of cottonseed leads to denaturation of cottonseed protein which then bypasses the rumen. Bypass proteins are now accepted throughout the world as more efficient sources of feed proteins: they avoid conversion into microbial proteins in the rumen and are directly converted into milk and protein.

Here is an example of centuries old wisdom, wisdom that we scientists and professionals did not accept. Now, thirty years later, we discovered that the women of Kaira District were always right. We also know that they were right about their *ghee*: feeding of whole cotton seeds does lead to high proportions of harder fractions in the milk fat, and that does produce a superior quality of *ghee!*

Let me mention *ghee* itself.

In ancient times, we Indians discovered a good method to preserve milk and milk fat. First, we boiled all our milk so that it would keep all day. There were no refrigerators in V*edic* times. Whatever milk was left over was converted into curd. Whatever curd was surplus was churned into country butter.

The process of making this country butter involves churning curd at a temperature of more than 30^{o} centigrade. This means that only the solid fat is converted into butter. The liquid fat, which is far more susceptible to oxidation, becomes butter milk, a very healthy drink.

Continuing the process, if there was country butter left over after a few days, our ancestors melted it at very high temperatures, converting it into *ghee.* This *ghee* can be kept for as much as a year at ambient temperatures; butter oil will not keep for even three months at those temperatures; butter will deteriorate in only a few days.

So, this process developed in ancient India -- and continued until the present — conserves our milk and milk fat in a way that eliminates the need for refrigeration. This is impressive in itself. However, what we have now learned is even more noteworthy.

In the process of making *ghee*, Conjugated Linoleic Acids (CLAs) are generated by heating milk fat, in the presence of protein, at the high clarifying temperature of about 120^{o} centigrade. As food scientists you will know that CLAs are not only powerful anti-oxidants, they now believed to have anti-carcinogenic properties. We are therefore no longer surprised to see the old people in our villages drinking some *ghee* along with their hot milk before sleeping.

It was not long ago that our food scientists were telling us that *ghee* was not good for us.

We, the educated elite of both North and South, possess knowledge. The uneducated -- even the illiterate -- may lack knowledge but often possess the great wisdom of our ancient civilizations. Knowledge, without wisdom, can be most harmful. Wisdom, without knowledge, often achieves little. We must seek to marry wisdom and knowledge, but we can only do so if those of us with knowledge have the humility to respect wisdom, and to respect those who possess wisdom.

Think for a moment about a New World Order. Do not the same lessons apply? Is it not the greater wisdom to allow others to do it *their* way. Is not a part of a New World Order a commitment to encourage and nurture each people's control over their own destiny, a commitment to ensure that they gain and maintain control over the resources that they create? Should not a New World Order be a child of the marriage of knowledge and wisdom? This, I believe, is a fundamental to any World Order.

But, the basic reality today is that the world is divided into rich and poor. There are vast imbalances in the consumption of the earth's

resources. There are vast imbalances in the damage done to our environment. I would argue that any New World Order must recognise:

(1) The fundamental human right is the right to live;

(2) There is no identity between political freedom and a so-called market economy; while there can be no compromise on the former, an economy should be suited to the unique needs and genius of any people;

(3) This world can no longer afford an international economy that simply panders to the needs of the affluent nations, creating patterns of consumption today that can only be met at great cost tomorrow;

(4) The greatest resources in this world are its people and its land. Both must be used with wisdom;

(5) The world economy has evolved in a way that provides the lion's share of benefit to a small part of its population. This not only alienates and divides us into North and South, it ignores the importance of creating strong economies everywhere -- in the interest of sustaining the welfare of all.

If we are to seize this rare opportunity to create a New World Order, I would argue that we must first work together -- North and South, East and West -- to build the agricultural base on which most of the world's poor nations depend. We must wage a relentless attack on world hunger -- not by providing doles that increase dependency, but by helping to build an infrastructure that supports self-reliance.

In India, we read from time to time about Government programmes in Europe and North America, programmes designed to curb agricultural production. "Whole herd buy-outs", "land retirement", "soil banks", and the like. Half the world is unable to fill its stomach and the most productive nations of the world bribe their farmers to reduce production! I

believe this is immoral. It is immoral to raise prices by depriving the poor of food and fibre. It is immoral for those blessed with three-quarters of the world's land to deny food to those who live on the remainder. It is immoral to ask a man or woman, the farmers of the advanced nations, to turn away from their profession -- to do less than that of which they are capable.

All we are talking about is small amounts of food on the margin. Food that can be used to help develop people, not to simply feed them. Food that can be sold at market prices to help build producer-owned enterprise. Food that can build capacities and contribute to self-reliance. Food that will strengthen economies, bringing the world's poor nations into the world economic family as buyers and sellers.

These are matters that are far too important to be left to Governments. Governments, after all, are politicians and bureaucrats whose professions are to make simple matters seem complex. And who all too often succeed.

Gathered here in Toronto are representatives of much of the world's food industry. You are the organizations that produce, gather, process and market a vast share of the world's food. Your combined turnovers must be measured in the tens, if not the hundreds of billions of dollars. Just a small fraction of that would suffice to finance sustainable agricultural development that would truly make a difference.

But your organizations have something more important: you have men and women of extraordinary talent in the sciences and technologies related to production, processing and marketing of food. I dare say that both here, and in your organisations, there are many who began their education in my own country and in other nations of the South. I would ask them, and all of you, what immense benefits could you not give to mankind were you to turn but a small part of your talent to the needs of the world's masses. There may well be a need to make a new type of breakfast cereal, a new flavoured milk drink, or a new microwavable vegetable preparation. In much of our world there is also a need to

produce cereals, milk and vegetables in sufficient quantities to meet basic nutritional requirements; there is a need to find ways to reduce the terrible losses that occur in the field, in transport, storage and marketing; there is a need to discover low cost ways of preserving produce. In fact, there are needs in every aspect of food production, storage, handling, transport and marketing. If only a small fraction of your time and talents were devoted to such needs, would not the impacts be enormous?

Let me provide a few modest examples of this from our experience.

When we set about the task of erecting modern dairies in India, we faced the question of distribution. At that time dairies in the West supplied milk to consumers in bottles. But that was an expensive packaging for a country like ours. So we looked at the way people bought their milk: they had a can that was filled by the supplier and they took their milk home and boiled it. In fact, even though we spend a great deal of money to produce pasteurized milk, I can assure you that the first thing that the wife of our Dairy Board Chairman does when she buys milk is to boil it! So, in order to reduce costs and in order to supply milk in a way that was not terribly different from our future consumer's experience, we introduced bulk vending. Our customers bring their milk can to a booth, put a token in the slot, and collect their milk.

A second example is in animal nutrition. A country like India cannot afford to divert land to production of fodder and feed for our livestock. Our milk -- and we are the third largest dairying country in the world today -- is produced almost entirely from crop residues. However, as the quality of our livestock improves, it is essential that their nutrition also improve. Therefore we evolved and have introduced a urea-molasses block that provides an economical and effective way to improve feed conversion efficiency and the nutrition of our milch animals.

It is ironical but true that my country continues to export protein in the form of oilseed extractions. While we expect this to change over time, at the moment much of our soybean meal -- for example -- is exported. At the same time, the major source of protein for many of our people are

pulses and lentils which have become very expensive. Since we support oilseed growers' cooperatives, we asked our scientists to take a look at this problem. What they have done is to develop a pulse analog using soybean meal, lecithin and cereal starch. This is about to enter commercial production and will provide a lower-cost source of protein that looks, tastes and behaves like our local pulses.

As you can no doubt imagine, the opportunities -- the demand -- for this type of application of science and technology is almost limitless. And, if I may apply a value judgment, the scientist who evolves a new protein food for India has contributed far more to mankind than the scientist whose imperative is to create a product designed only to meet a need created by advertising agencies.

As you proceed with this conference, with its various scientific and technical issues, I would ask you to also consider ways in which the financial, commodity and human resources of the international food industry can be applied to the needs of those who do not have enough to eat. And, last, I would ask that after you have considered, you resolve to act.

Imagine, if you will, the extraordinary impact if the talent and resources represented in this room, joined to what we have learned about creating grower-owned and controlled organisations, were to work together with the producers of the newly emerging nations of the erstwhile Eastern bloc. What could we not achieve? Even more important -- for the need is far greater -- if those same talents, resources and experience were joined to work with the producers of Africa, Latin America and Asia, could we not produce miracles?

It is rare in the course of history that there is an opportunity to reshape our world. In modern times such brief moments have occurred but twice or thrice. Unfortunately such opportunities as have occurred in the past dissolved in a fury of self-aggrandizement, national narrow self-interest, and the arrogance of power. Today we once again stand before such an opportunity. It is truly possible to create a New World Order. Not

a World Order of weak and strong but a World Order in which every man, woman and child on this planet has the opportunity to realize her or his potential. So, to seize this opportunity we must strive to build a better world, to strengthen the weaker members of our community of nations, to respect diversity of economic systems just as we respect political freedom.

This is not the task of Governments. Just as we in the developing world have become conditioned to expect Government to do everything for us, so those of the advanced nations have abdicated their right and responsibility to become involved in the efforts to improve our world. It is most important -- even critical -- that members of the world's educated elite become involved. Each of us whom fortune has favoured with an education, with talent, with wealth, has a duty to our fellow man that we should not deny. We must -- each of us -- discover what we can do, and then act. Only then can we make this a truly better world.

Thank you.

Acceptance Address

SIR JEHANGIR GANDHI AWARD FOR INDUSTRIAL PEACE

April 4, 1992
Xavier Labour Research Institute, Jamshedpur

Ladies and gentlemen...

It is a matter of considerable pleasure for me to be with your here today. It was here, in Jamshedpur, that I began my working life as an Officer Apprentice of Tata Steel in January of 1944. To return after all these years, and in such pleasant circumstances, gives me considerable personal satisfaction.

At the time when I served at Tata Steel, the man whose name distinguishes today's award was the General Manager of the plant. I therefore am well aware of how he put Tata Steel -- and indeed Indian steel -- on the world's map. And, because I am also aware of the energy, commitment and integrity that he brought to his work, I am both honoured and humbled to receive this award. Sir Jehangir remains an example that all of us who manage business or industry or agriculture, an example of how to manage the finest instrument we employ, namely manpower, in an effective, efficient and just manner. He also made steel.

I am also happy to be here today because, as you may know, I once was honoured by another Peace Prize. At the time someone said to me, "How wonderful it is that a man who is always at war has won a prize for peace!" Perhaps this second "Peace" award confirms what I have always believed: peace is something that must be won, often through struggle and at the cost of considerable sacrifice. True peace is not achieved by compromise of principle and practice. Rather, it is achieved by a struggle to harmonize conflicting claims and by being fair and just.

Last, I am most pleased to have this opportunity to address such a distinguished gathering because, like many of you, I believe our nation has reached a critical turning point. Today provides me with an award to

share some thoughts on this subject with individuals who do make a difference, and who can make a difference.

As you probably know, my job is working for farmers. In Kheda District of Gujarat, where I work, farmers tell a story about two neighbours in a village. One, a farmer, was awakened one morning by considerable noise and excitement next door where his neighbour's family was rushing about carrying luggage to a rickshaw. He asked this neighbour, who was employed in the AMUL Dairy, what was happening. The neighbour replied that he and his family were going on a holiday. The farmer asked where they might be going that would require so much luggage. The neighbour answered that they were going to the Andamans. Now the farmer had never heard of the Andamans so he asked where it was and learned that it was two or three thousand kilometers from Kheda District. How then, he asked his neighbour, can you afford to go there, and take your wife and children as well. The neighbour replied that he wasn't paying, that it was his LTC. This was also an unknown word for our farmer so he asked who this LTC was. The neighbour answered that LTC was a benefit and that the AMUL Dairy paid for it. The farmer, who was a member of the cooperative dairy, reflected for a moment, then replied, "So then I am paying for this!! When do I get this LTC?”

A few years ago there was a flash strike by the employees of the AMUL dairy. The dairy handles close to 10 lakh litres of milk a day, so the daily loss to our farmers was something like Rs. 50 lakhs -- once the cow or buffalo gives the milk it can't be put back in the udder! What’s worse, it will go bad in a few hours. Our farmers became quite angry at this. They discussed the matter and then about 900 chairmen of village dairy cooperatives came to the Managing Director and to me and said that these employees ought to be taught a lesson. They had no objection to ensuring that their employees were paid well and treated well. But they did not feel it was fair, or correct, that they be held up in this way. They agreed that each village would send two young men to work in the dairy and they instructed the Managing Director to clear the dairy of the striking employees. Some 30,000 farmers came to the dairy to help the Managing Director and the young village men ran the dairy until the employees

realised that it was in their interest to reach an agreement. I might mention that ours is not the only cooperative where this sort of event has taken place. Workers should not try to exploit peasants.

I have mentioned these two stories because I am concerned that organised labour has got a larger and larger share of the Indian cake. There is no doubt that some of our labour were badly exploited in the past, nor even that today much of our labour is equally badly exploited. But, for those labour who are organised, life is not all that bad: they receive a good wage, with the scales revised every two or three years; they receive DA, ADA and TA; they receive a bonus not as a result of increased productivity, but simply as a right; they have a Provident Fund, insurance, gratuity, retrenchment, overtime, double overtime, sick leave, privilege leave, paid holidays, and much more. Our farmer receives none of this. Reflect for a moment on the fact that not only do we all depend on our nation's farmers for the food we eat and the clothes we wear -- much of our industry consumes raw materials produced by our farmers.

Now, let me tell you another story. A year or two ago some of our dairy cooperatives pointed out that their supplies of milk were decreasing. They correctly said that the price they were paid for milk had changed very little for several years while all of the farmer's costs were increasing. They were quite right, so we decided that the price of milk sold by the Mother Dairy in Delhi should be increased. What a commotion that event produced. Large numbers of well-fed and clothed politicians and government employees took to the streets with banners and slogans -- though, I would note, none threatened a hunger strike. Were they concerned with the lakhs and lakhs of farm families for whom the price of milk was an income? No. Regrettably, their only concern was the welfare of a comparatively small number of urban consumers for whom milk costs represented only a small portion of expenditure on food.

In years past, our farmers didn't notice such discrimination. Today, they are beginning not only to take notice, but to become angry. Farmers have complained to me that the entire structure is biased against them. Laws are drafted by government employees to serve the interests of

government employees. Those laws are administered by the same employees and even adjudicated by employees of government. Our farmers are beginning to believe that this is a conspiracy hatched to ensure that the largest slice of the Indian cake is always in the hands of a group that amounts to no more than five percent of our population.

It is not just our farmers who have a cause to complain. In a land where unemployment and underemployment is rife, everything is done for those who already have jobs, for those who work in our offices and factories. There is no equal treatment either for those who work in our fields, or who labour without the benefits of the "formal" sector. We should ask the question: when our Constitution guarantees equal treatment under the law, is it right and just for a small and select elite to exploit the rest of our population?

Of this small and select elite, those who receive the maximum benefit are the favoured few -- or rather many -- who work for government.

Recently I came across a column written by Shri L.C. Jain. Shri Jain pointed out that contrary to the expectation that an attempt would be made to curb Government's expenditure on its employees, in actual fact the budget calls for a 10 percent increase -- Rs. 1,200 crores -- in additional salary and benefits, excluding any additional dearness allowance that may be awarded during the year. Think for a moment what that means: it means that out of the massive borrowing we are undertaking, mortgaging our future to the IMF and World Bank, as much as $480 million is being borrowed this year just to provide an increase to Government employees!

One can agree or disagree with the wisdom of borrowing or taking handouts from the World Bank, International Monetary Fund and the industrialized nations. What we cannot question is the fact that we will escape this cycle of debt only if we can increase productivity in both industry and agriculture. If our government officials work for only two hours a day, if our factory workers strike when asked to do more than a

few hours labour or if bad workers are punished, how, then, can we solve our problems?

What has been our response to the lack of productivity in industry? It has been the systematic attempt to depress the price of the only raw materials that are vulnerable -- those produced by our nation's farmers. If the price of wages goes up, what does our industry say to our farmers: you must sacrifice because our margins have narrowed. If the price of coal, gas or chemicals rises, what do they say to the farmer: costs are rising, therefore we can pay you less.

What I am saying is not mere speculation. You may have read about the "dialogue" that took place between the Government of Gujarat and NDDB on the price of groundnut oil. The moment there was the slightest hint of restraint on the wholesale prices, the oil millers stopped buying groundnut and stopped selling oil.

Unfortunately this economic exploitation is compounded by incompetence, inefficiency and massive corruption.

Governments are proud of broadcasting the subsidised credit rates for farmers. Which farmer gets one of these subsidised loans without paying bribes that raise the real interest rate well beyond the market? Our farmers don't want subsidies, they want honesty, efficiency and responsiveness to their needs.

We work with some salt farmers in the Little Rann of Kutch in Gujarat. The poverty of these farmers must be seen to be believed. They labour in conditions that would make hell seem like a holiday resort. Yet, when we help these farmers to organise to market their own salt, what happens? We cannot get railway wagons because we cannot bribe the railway employees. If we manage to get the wagons, we can't move them because the shunting engineer won't do his job without a bribe.

It is this situation that has led us over the years to recognise that the only way for our farmers to find their rightful place in the Indian sun is

to become organised themselves. That is why we have organised farmers into unions -- cooperative unions. In these unions they gain a small degree of control over the resources that they create. Today close to 80 lakh farmers are united in such cooperatives. Their wisdom, their energy and their power are linked with the training and skills of professional managers. In the dairy sector alone our farmers now handle some 120 lakh litres of milk worth six crores of rupees every day. Not yet equal to the sales of Tata Steel — but fairly close!

There are many who view this change with fear. They think that if our nation's farmers unite, prices will rise. Margins will narrow. Political power may shift to those who have learned the lessons of true democracy by managing their own destinies.

To those people I would say that our nation's economic and political future depends on just such a change. For it is only if our farmers receive a stable and decent income that they will invest in the productivity on which our economy depends. And it is only if our rural majority learns the true meaning of democracy that when our nation becomes a leader in this world -- as it must surely become -- that we will lead with wisdom, with decency and with honour. It is true that our democracy is increasingly beset with many evils. The answer is not to abandon the democratic form of Government but to accept the well proven belief that the solution to the problems of democracy is to have more democracy. We must underpin our democratic form of Government at Delhi — and at Patna — with a plurality of democratic structures right down to our villages. This is exactly what our cooperative dairy movement is attempting to do. We need a plurality of such structures not only in milk but in as many agricultural commodities as possible, in the provision of health services, in education, in electricity distribution, and in every sphere where our communities are affected by the quality of services. Only this will ensure that our future leaders emerge not solely from our political and parliamentary systems, but through these new structures, challenging, in fact, the existing system.

Peace is not the absence of conflict or absence of struggle. Peace does not mean buying off those who would cause trouble with wages, or by tolerating, excusing or even encouraging bad behaviour. If we have reached a stage where our very national dignity is sacrificed to please foreign nations and banks, it is because we have sought to buy peace, not to build peace.

True peace will be achieved when all of our nation unite in a common effort to build a better life for all. What we need to build peace is not populist bribes to our people, but a call for sacrifice by one and all.

If I stand before you as the recipient of a prestigious award it is not because of anything that V. Kurien may have done. It is because of the sacrifices made by lakhs of farmers, their employees, and -- most of all -- because of the sacrifices of the young men and women who are the National Dairy Development Board. These are people of immense talent, ability and fine training. Yet they have sacrificed far better paying jobs, far more comfortable lives, superior education for their children and, very sadly, sometimes they have sacrificed their lives to the cause of our nation's farmers.

If our labour leaders, if our government employees, if our industrialists and if our politicians would choose to make such sacrifices for our nation's rural and urban poor -- for those who lack the things we enjoy in the fullest measure -- then would this nation not attain true peace?

I do not mean such token sacrifices as 10 percent of one's salary. I mean the sacrifice involved in committing one's energies, one's talents and one's income to help our nation's poor share the wealth that -- all too often -- they create.

When I was younger I had a dream. I was a young professional working for the farmers of a District. Like so many of my generation, I had been inspired by the leaders of our freedom struggle and by men like Sir Jehangir Gandhi whose contribution was to apply their professional talents

to build the economic independence of our nation. In my dream I saw hundreds and thousands of young professionals -- engineers, veterinarians, scientists, managers -- devoting themselves to our nation's poor, helping to transform our rural areas into a vast and powerful resource for future growth.

How sadly have I been disappointed. Our educated elite have chosen not to serve others, but to serve themselves. We have competed not in sacrifice, but in buying peace. However, we now all know that we have failed. Far from attaining peace, we see a nation torn by strife.

It is not too late. We are a nation with a great capacity to rise to the occasion. Let us not rise to this occasion by borrowing from others. Let us reach within to the inner strength we all possess. If we have erred in the past, let us forget that past and turn toward the future. Let each man and woman in this room ask a simple question: what can I do to build a strong nation? What sacrifice can I make to rebuild the nation we all dreamed of in 1947?

I repeat, peace cannot be bought. Peace must be earned through effort, based on principle and paid for with sacrifice. Let us all work together to create a just and lasting peace.

Thank you.

Institute of Rural Management
Eleventh Annual Convocation

Anand, Gujarat
April 7, 1992

Distinguished Shri Pranab Mukherjee, invited guests, members of the IRMA Board of Governors, members of the faculty, graduating students, ladies and gentlemen.

I am delighted, Shri Mukherjee, that you have been kind enough to find the time to be with us on this occasion, one which is important both to IRMA and to these young men and women who graduate from the Institute today.

However, I would fail in my duty were I not to alert you to the fact that IRMA Convocations do strange things to the Deputy Chairmen of India's Planning Commission. Mr. Hegde addressed the 9th IRMA Convocation in 1990; soon thereafter he left the Planning Commission. In contrast, for Dr. Manmohan Singh, the 10th IRMA Convocation was a good augury. Soon after he delivered last year's address, he found himself pitchforked into the Union Cabinet from where he has engineered our own homemade *Perestroika.*

We will now closely watch what the future has in store for you. I only hope that whatever that may be, someone of your experience and stature would help to ensure that our *Perestroika* does not land us where the erstwhile Soviet Union finds itself today. To have watched a man of Gorbachev's greatness forced to grovel, and to see a proud and powerful nation humiliated and battered into bits, has not been pleasant.

If nothing else, this sad experience has shown us that liberalization that leaves entire nations disintegrated cannot be an unmixed blessing. Lest I be misunderstood, let me assert that I have nothing against liberalization, per se. In point of fact, throughout my life I have tried to liberalize segments of our agriculture; from stifling bureaucratic

hegemony. I would, in fact, be the first to grant that competition is the surest guarantee of progress and modernity. I would add that much of what we have been doing with our economy in the last few months is moving in the right direction.

However, while I agree with the direction, I seriously question the wisdom of the way in which we have sequenced our steps toward liberalization. Seventy per cent of our people still live in villages and earn their livelihoods from our land and the employment it creates. To liberalize industry, trade and international finance before liberalizing our agricultural and rural economy seems to be retrograde.

It is important that we all recognize that borrowing abroad cannot solve our problems; it can only delay the solutions. There is but one way by which we can find our way our of our present situation, only one path to a better future: raising our productivity. In an economy such as ours, any effort in this direction must start with agriculture. And it can succeed only if agriculture is liberated from the shackles of the bureaucracy.

The Anand Pattern is a standing testimony to what our farmers can do when they exercise control over the resources they create. The experience of Anand has established that agricultural development is not a matter of technology; it is a matter of building institutions. Rapid growth of rural productivity demands the replacement of traditional institutional structures -- particularly those of the government -- by new structures for procurement, processing and marketing of agricultural produce. These structures must be owned and controlled by farmers. It is only when our farmers do control them that such structures are sensitive to their needs and aspirations and remain responsive to their demands.

The Anand experience has shown that agricultural development is more than using foreign "technology" to turn potatoes into wafers and apples into watered-down fruit drinks. It means more than just adding value to what the farmer produces. The structures that Anand represents do promote productivity, increased output, higher incomes, greater employment and technical progress. But they do far more than this. By

placing the instruments of development in the hands of our people, these new structures result in the development of our nation's most valuable resource: our men and women. By encouraging farmers to take charge of their own destinies, farmer organizations empower our rural people. By providing an outlet for genuine leadership they offer an alternative to the political structures and are helping to build a cadre of leaders driven by nobility of purpose rather than by greed and opportunism. We are encouraging a new generation of leaders who are motivated by an urge to build institutions rather than by a desire to partake of the spoils. And we are underpinning our democracy in Gandhinagar and Delhi with a plurality of democratic structures at the village levels, structures that give meaning and substance to our democracy. To my way of thinking, inviting foreign capital into consumer industries at the cost of such institutions would be penny-wise, but pound-foolish.

Such structures are difficult to create. They are even more difficult to sustain. If they are to flourish, they must be nurtured by an enlightened government. A government that recognizes that they need freedom from bureaucratic and political interference. A government that recognizes that they also need support and encouragement until they are strong enough to fend for themselves. And a government that recognizes that its true role is to provide encouragement so that good managers can evolve a sensitive partnership with our farmers.

This is what IRMA is all about. Farmer organizations need the very best in terms of the qualities of head and heart in their managers because they do far more than simply add value to produce; they add value to people. That is why the training of managers at IRMA is so much more field oriented than in any of our other management institutes, indeed more than most such institutes around the world. These graduates have lived in our villages. They have learned that while our farmers may be unlettered, they are wise. They are, therefore, far better equipped to begin to assume the challenge -- and the trust -- of helping to manage the affairs of our farmers.

Many who, like me, have spent their lives working for farmers now bemoan the New Economic Policy. They fear that farmer organizations will not be able to withstand the onslaught of competition from our big business houses, multinationals, traders and the like. I do not share these apprehensions. I do not feel that there is anything inherent in cooperatives that makes them less capable than other types of organizations. In fact, it is my conviction that in all agro-based and food processing industries, farmer organizations should be intrinsically stronger than invested-oriented corporations. If -- and it is a very big "if" -- if only cooperatives are allowed to compete on a level ground, I am certain that the multinational does not exist that can compete with our cooperatives.

But the fact of the matter is that we are not fighting on a level ground. Cooperatives, unlike companies, are suffocated by an archaic cooperative law that makes it impossible for them to operate on sound commercial lines. Far from enjoying the best leadership and professional management, cooperatives often struggle to perform under bureaucrats imposed by the state and politicians whose interests are often to serve themselves, not our farmers. Successive Finance Ministers at both the Union and state levels have imposed taxes which retard capital accumulation in rural cooperatives. A series of commodity taxes and cesses also blunt the competitive edge of cooperatives. For, as all will admit, the cooperatives will always pay their taxes just as the trader will avoid and evade them.

We are fortunate that, at last, the Planning Commission has taken a major initiative in promoting the reform of cooperative legislation. There is also a move to include a chapter in The Companies Act which will provide a home for larger cooperative companies. When these are enacted, we will have taken a first important step towards liberalizing our agriculture. But I must warn that there is still a long way to go even to achieve this liberalization. There are those who will not rest until they ensure that our cooperatives remain in the same chains that shackle them today. However, with the support of leaders of good will, I am confident that this obstacle for our cooperatives will be overcome.

A good deal more must also find its place on our liberalization agenda. Wherever possible, taxes on cooperatives need to be abolished, recognizing that cooperatives are simply an extension of our farmers, not an enterprise designed to increase the wealth of those with capital. We need tax legislation that neither impedes the capital formation of our cooperatives, nor weakens their ability to compete with the private trade.

If these changes are made, there is no reason why farmer organizations cannot compete with even the best of our big business houses or the strongest of multinationals, especially with an institution like IRMA which can provide our cooperatives with the finest managers that any business can hope to recruit.

To the young men and women who graduate today, I hope that IRMA has helped give you the courage, the staying power to face these new challenges. Times are changing rapidly. So are the needs of our time. For those of you who will work for farmer cooperatives, the scene is heating up. Battle lines are drawn. It will not be long before each of you begins to feel that heat.

Great challenges necessitate equally great responses. In keeping with the changes in our economic environment, our cooperatives will need to change -- and change rapidly. You are the seeds of that change. As we welcome you to the world of action, we know that some of you -- perhaps many of you -- will fall by the wayside. Ours is not a task for the weak of heart. There are those of you, however, who will find your life's calling. You will grow strong in the service of our farmers. The seeds you plant will not only germinate, they will multiply -- some ten fold. Some a hundred fold. Some a thousand fold.

I wish you all well.

Thank you.

Kale Memorial Lecture

Agricultural and Rural Development in the 1990s and Beyond: What should India do and why.

Gokhale Institute of Politics and Economics, Pune
July 17, 1992

Dr. Wadhwa, members of the faculty of the Gokhale Institute, distinguished guests, ladies and gentlemen ...

This Institute has been a pioneering institution. It is a striking example of the impact that an institution of research and learning can have as a whistle-blower — drawing society's attention to issues critical to its people and, thereby, in influencing the way public policy on such issues gets formulated. I am happy to be here.

By making these remarks, I think I am leaving no doubt in your minds that I am an admirer of this Institute. Even so, I would be dishonest if I were I to say that I was entirely delighted to accept this invitation. Indeed, it was with some genuine reluctance that I could overcome my apprehensions about accepting the honour of addressing you today.

The reason behind my apprehension was that I have a deep dislike for economists. I am credited with having made a public statement — which, incidentally, I have not denied as yet — that a world without economists would be a lot better place for the human kind. May the tribe perish — for they never are where the action is!

Now, when I first heard from Dr. Wadhwa, I quickly inferred that he could not have known the views that I have harboured in my mind about economists. I was torn between the horns of a dilemma. I had no intention of keeping him in the dark on the matter. Nor, in the stage of my life at which I am poised, did I feel inclined to change my views either on economists or, for that matter, on anyone else. It was, therefore, that I was apprehensive about accepting an invitation to deliver this lecture.

When Dr. Wadhwa persisted, I finally let my guard down and accepted his request to be here today. However, lest I should begin to deal expansively on my views on the subject of economics in the midst of an audience of economists, I decided against an impromptu talk — with which my performance is generally better. Instead, I have brought a prepared text which, I can assure you, has been carefully cleansed of all my views on economists.

As many of your probably know, all my working life I have been a manager. I and my colleagues have built and managed businesses -- to be frank, quite big businesses -- and, unlike the Tatajis and Birlajis, we inherited nothing; we built our businesses from scratch. Moreover, unlike the Harshad Mehtas of this world, we did not build our assets overnight; building Amul took us 40 years — and the sweat and blood of our farmers.

You might say, no big deal — after all, what are managers for if not to manage businesses?

To which I would say that there is a difference. I — and the other professionals like me who chose our particular brand of profession — differ from “lay” managers. Most managers build businesses for the owners of capital. But we built businesses for farmers.

And, in doing so, we fought battles on behalf of the farmers. Instead of talking and writing clever papers about the problems of the farmers, we spent our lives working on some of those problems. Not as do-gooders with a patronizing outlook — but as professionals employed by farmers, and paid by them to solve their problems.

We began to look at the world through the eyes of our farmers. And believe me, the world did look different. It looked dark and even sinister. And full of double standards. Soon after Independence, leaders like Sardar Patel, Pandit Nehru and Lal Bahadur Shastri emphasized the need for our farmers to emerge; Panditji even talked, with great flourish, about a rural India convulsed by cooperation. These were indeed great men; and

through the support and encouragement they provided to us, they proved true to their word.

But, as a young manager of a cooperative, I was perplexed and frustrated. When someone like Panditji or Shastriji said that India's salvation lay in cooperatives, in my innocent mind I thought they were merely giving expression to the views of the Indian State. But I quickly discovered how extraordinarily difficult low level politicians and petty bureaucrats can make it to set up a farmers' business in this country while, at the same time, they pay endless lip service to the need to organize farmers. I found that instead of organizing farmers, we were spending all our energy and resources on overcoming opposition. And I could understand having to deal with opposition from trade and other vested interests; but I could not understand why we were having to overcome opposition from the State itself.

This was my bitter introduction to the statecraft. This is how I realized that Panditji and Shastriji did not represent the Indian State. They merely proposed; it was the bureaucrats and power brokers lower down who disposed. This is how I came to regard the IAS and the bureaucracy — incidentally, in my opinion, that is the only tribe that needs to perish before the economists — as the foremost hurdle to the emergence of our farmers. They symbolized to me the worst legacy of colonialism.

Now, in the twilight of my career, I have realized that our problem is systemic: bureaucrats are not born, they are made. A perfectly good individual would turn into a bureaucrat when functioning as part of a bureaucracy -- and, similarly, even an otherwise honest public worker would turn a power broker if the polity has been designed to reward only the power play. I believe that if India as a nation — and its agricultural and rural economy in particular — has not done as well as it ought to have, it is because we have failed to get the chemistry right between the State and our institutions of development.

I notice that Dr. Manmohan Singh has come to roughly the same assessment. His answer to the new challenge — guided, quite regrettably

in my view, by some long deceased economist called Adam Smith who lived somewhere in Europe 200 years ago — is to withdraw the State from the economy.

I beg to differ; I think that what India needs is not less State but a better State; we need less of the State as a meddler, less of the State as an inept entrepreneur, and less of the State as a manager. But we need more of the State as an institution enabler; as a protector of our institutions of development; and as a protector of the rights of the totality against the treachery of pressure groups. We need less of the "awkward" and "mean" Sate which India has suffered so far; but we need more of the "subtle" and the "noble" State.

There is growing realization that we cannot continue thus for long. Something has to give. For, at the current rate, we are likely to enter the 21st century a miserable nation with an army of 300 million or more half-clad, hungry, rural unemployed and under-employed. The poor of India will not wait indefinitely.

We tried land reforms; but our bureaucracy and politicians made a mockery of our land ceiling and tenancy laws. We also tried a range of anti-poverty programmes — as an act of penance for letting the poor down on structural reforms; but here, too, the bureaucracy has usurped the lion's share of the resources available allowing no more than a tiny fraction to actually reach the poor. We have always chased the mirage of growth with equity; and we have achieved neither growth nor equity.

In my opinion, an answer to India's rural poverty would be to sustain a 10-year spell of rapid agricultural growth. What India's rural economy seems to need most is to break free of the "Hindu rate of growth" of 2.5 percent per annum. Above everything else, what we need is to gun for a real value of agricultural output that grows at 5 percent to 7 percent per year for the next one to one and one-half decades; for then -- by around 2005 -- we would have broken out of the "poverty trap."

But this kind of growth in the agricultural-rural economy cannot come from economic planning of the variety we have pursued so far; neither can it come from tinkering around with resource allocation, nor from a sterile search for technological miracles. It can come only from a quantum jump in the way we, as a society, think and work. It can come only from a redesigned chemistry between the State and our institutions of development. This requires that the State withdraw from three roles in which its performance has been disastrous; and that it learns to better perform three other roles which only the State can play.

State and society

By State, I mean the institution of national governance. The State is an institution; government, an organisation. In different nations, the State has adopted differing postures with respect to the processes and institutions of development. In western societies, for instance, the institution of markets is allowed greater play in the economy with the State taking a hands-off attitude. In the erstwhile Soviet Union it was very nearly the opposite. In the east, while evolving an Asian capitalism — far more relevant to us — the State has played an entirely different and more creative role. I understand that secret of Japan's international competitive advantage is the institutions of *'zaibatsu'* and *'kieretsu'* through which the State guides Japan's capitalism through a complex inter-locking network of corporate interests. Unlike in the western version of capitalism, the Japanese State has provided a subtle, nurturing and enabling support. The Indian State, too, has chosen to be an active player; but, regrettably, it has proved to be an awkward, patronizing and disabling role.

The Indian State has used all instruments of economic intervention: taxes and subsidies, regulation and direct action. It has, for instance, assumed the role of an **entrepreneur** in establishing cooperative organizations; as an **entrepreneur-manager** in creating organizations like the Food Corporation of India (FCI) and the State Trading Corporation (STC). It has undertaken public production of rural development services through myriad forms, **organizations** like the DRDAs, **programmes** like

the JRY, and **campaigns** such as the Technology Missions. The State has thus assumed and mal-performed six different roles:

Agent of Intervention in the Economy: The miscarriage of Indian agricultural and rural policy is to be traced to four common drawbacks which have characterized this institutional failure in all State interventions:

a) **Goal confusion:** most interventions end up trying to achieve more than one, and often conflicting goals;

b) **Mistargeting**: most interventions miss their target groups or objects;

c) **Redundancy:** most interventions tend to survive long after they stop serving their original purpose; we have singularly failed to devise an "exit" procedure for interventions and organizations that are no longer relevant to their original goals; and

d) **Negative loops:** most interventions end up in the centre of a new political economy with deeply entrenched pressure groups and vested interests. As a result, we have created a system which can be operated only with the help of the so-called "*ten percent wallahs*" acting as brokers between the State and legitimate economic actors.

Roles the State must avoid

Entrepreneur: The Indian State has extensively intervened through creating and operating its own organizations. No sooner are these born than they become monolithic, inefficient, self-serving white elephants. Take, for example, the Food Corporation of India. Created in 1957, the FCI has grown into a colossus employing nearly 80,000 workers. In its checkered history, the FCI has never been viable. Its staggering losses during the period between 1958 and 1989 had reached several hundred crores. Directionless, and without a long-term strategy, the FCI has become a den of corruption and inefficiency. With strong labour

unions, the operating costs have shot up to unheard of levels. For example, the FCI's average loading cost is Rs. 200 per metric ton compared to the Rs. 25 incurred by a private grain handler. Its storage loses have averaged 3 percent compared to 0.5 percent for private handlers. Its grain losses due to moisture alone are what private handlers tolerate for all categories. Organizations like the FCI are beyond redemption — forbidding to manage, impossible to turn around.

The purpose for which the Food Corporation of India was created — that of providing price support to farmers through open market operations — was certainly important and noble; but the FCI was no way to achieve that goal. We have known and tried better ways. Let me give you an example.

In 1979, when the Government of India asked the National Dairy Development Board (NDDB) to work out a modernization programme for the oilseeds cooperative sector, the NDDB realized that the major obstacle faced in pursuing this task was the highly unstable, volatile and speculative character of the edible oil market. At the end of a detailed exercise, the NDDB concluded in 1979 that any agency that controlled 15 percent of the country's edible oil supplies could, through limited but skillfully executed open market operations, contain the market prices of edible oils within carefully computed, pre-specified upper and lower limits.

Ten years later, the Government of India asked the NDDB to launch their Market Intervention Operation (MIO) with a limited commitment of financial and commodity support. The NDDB initiated two steps: we launched *Dhara*, a national brand of consumer-packed oil which in its maiden year became a runaway hit and one of India's greatest consumer marketing successes. Second, the NDDB launched open market operations, involving the newly-created oilseeds growers' cooperatives in the procurement and processing operations. During 1989-90, the price band given by the Government to the NDDB was Rs. 20,000 to Rs. 28,000 per metric ton. Not once did the Bombay market price move out of this band.

There are several lessons to learn from this. First, while the Government provided much moral support, it went back on most of its promises of financial and commodity support. Second, contrary to its earlier analysis — and out of necessity — the NDDB concluded that it needed not 15 percent, but could actually regulate prices in most years with a market share of less than 5 percent. Third, for launching *Dhara* as well as for its open market operations, the NDDB added less than one hundred people to its staff. Finally, the Government could hardly have done what the NDDB did with flair — for no civil servant would have had the heart to take the risks it entailed. At the same time, the NDDB could not have succeeded had it not commanded the complete support of the Government of India.

Organizational Governance: In the balance of this talk, I will use the term "monitor" to denote the governance structure of any organisation. The role of the "monitor" — or of a board of directors — is to establish and maintain consonance between the interests of those with a direct stake in the performance of the organization and the actions of the managers and administrators of the organization. In classical business corporations, this role is played by a board elected by share holders who are its owners; in a cooperative, it is played by a board of directors elected by the members who are the owners as well as users of the services of the cooperative. This is so presumably because a corporation and a cooperative exist to serve well-defined groups of people who own them and who therefore have a more enduring and direct interest in ensuring that professionals manage them in the long-term interests of their owners.

In India, in the case of virtually all institutions of development, this principle of owner or stake-holder control has been negated *ab initio.* Whether it is a farmer cooperative or a canal authority or an electricity board, the State invariably plays "monitor" to all the organizations it creates. In this capacity the State is represented either by a politician or a civil servant who neither represents owners nor users nor principal stake-holders of these organizations. Since there is no market valuation of such enterprises and they are under no obligation to provide information, the State as an enterprise monitor can get away with being completely

unaccountable for its performance. Separation of stake-holders from ownership and control is total, right from the beginning.

It is no surprise, therefore, that State-governed enterprises are born as, and remain flabby, bureaucratic, self-serving organizations. The result has been there for all of us to see: in the low plant load factors, high transmission and distribution losses, and the pathetic balance sheets of our state electricity boards; in long delays and cost overruns, low irrigation intensities, and large shortfalls in actual versus design command areas of canal irrigation projects; in our fraudulent rural development programmes and our moribund agricultural cooperative structure — all of which have the state as the "monitor." It is evident in the miserable performance of all the numerous organizations to which the State plays monitor, or worse — monitor-cum-manager.

Governance of an organization is a serious business. When the State assumes the role of a board, two things happen: first, the awesome power of the State makes the top management authoritarian; that is, it becomes excessively submissive to State machinery and excessively oppressive to the rest of the organization and its client system. Second, since the locus of control is shifted from within the organization to a ministry or department, the top management easily develops despondency: it is neither able to generate drive and energy for positive action, nor is it able to easily assume responsibility for consequences. Rapid transfers of top officers breeds myopic views and further intensifies the organization's lack of direction and drive.

Since this is a systemic feature of State monitorship, a practical solution is for the State to create self-governing systems. Cooperatives are an example. In Public Sector Units and educational and research establishments, self-governance and autonomy must be strongly encouraged. To ensure that these function as engines of development, the State should link its support to the contribution made by these institutions to the larger developmental processes.

Manager: When the State also plays manager, problems of accountability become more acute. When an IAS officer is the top manager, there are additional problems: his planning horizon seldom exceeds two years; six months is more and more common. For most IAS officers, postings to DRDAs, CADAs, cooperatives and tribal development corporations are opportunities for "cooling the heels" before they proceed to more meaty positions. Even as they absent-mindedly alleviate a few poor here and uplift a few tribals there, the eye is constantly on a probable posting in the finance and economic ministries, if possible in Delhi. If that is not possible, state industries corporations or even an electricity board would do, thank you. The search for such preferred postings can take substantial effort and frequent visits to the secretariat. In any case, since CRs are not written by tribals of poor people, it is easy to take it easy.

In most public systems, dramatic progress in performance can be achieved, without any significant resource commitments, with just the top manager desiring performance improvements and defining clearly what he wants; further improvement is possible by his desiring it strongly enough. This is because performance improvement is the last concern of everyone engaged in a moribund public system. Again, the most practical way out is for the State to avoid playing manager. There is no reason why a canal system or a public tubewell programme has to be managed by the State. There is no need for the State to play Vice-Chancellor of a university or a social forestry manager on private or village lands, or, for that matter, to serve as a rural development manager. Particularly so, as past evidence suggests that the State has not particularly distinguished itself in any of these roles.

Roles the State must learn to play better

In my assessment, a principal cause behind the poor performance of Indian agriculture has been that the State has chosen to involve itself in several crucial roles and, worse, has messed them up. The State, in my view, has no business getting into entrepreneurial, organizational governance and managerial roles. We, as a society, will be better off if, as Dr. Manmohan Singh has asserted, the State withdraws from these roles.

There are, however, other roles that only the State can perform in any society. I discuss three such roles which, if properly played, can make a difference. In each of these, the Indian State will just have to perform better than it has so far.

Legislator: The State is the principal law-maker in any society; it sets the rules of the game. The legal framework is the foundation of a modern civilized society. However, if this framework is not adaptable to the needs of a modernizing society, it can stifle its institutions of development.

Our Cooperative Societies Acts are but an example of how law can, in the hands of unscrupulous politicians and a self-serving bureaucracy, turn into a weapon of repression. Using the pretext that an independent, member-controlled cooperative movement would be sabotaged by local vested interests, our cooperative law has perpetuated the hegemony of the bureaucracy over cooperatives. The original Cooperative Societies Act, enacted in 1904, was a colonial law reflecting the natural propensity of the alien ruler to control native institutions. It therefore provided enormous powers to the Registrar of Cooperatives. After Independence, rather than reform this legislation to create an environment in which user-controlled institutions might thrive, each subsequent cooperative law has added to the powers of the Registrar while diminishing those of the owners. In recent decades, rather than protecting cooperatives from petty, sectional interests, the law has unabashedly been used by politicians and petty bureaucrats to stifle the growth of cooperatives by superseding their boards and suspending elections — often for years. In Tamil Nadu, for instance, cooperative elections were not held for 18 years. In Andhra Pradesh, ten years elapsed between elections.

Protector of the institutions of development

The most important role of the State is as the protector of institutions of development. The Indian State is notorious for devouring the nation’s institutions of economic development, often for mean and short-lived political gains. It has been a predator, not a protector. I have already alluded to the manner in which the cooperative movement has

been systematically emasculated by the State in Tamil Nadu and elsewhere for narrow political gains. But a more recent instance of the State delivering a lethal blow to an institution of development is the loan waiver decision taken by the government of Prime Minister V.P. Singh. Today, nearly two years after that decision was taken, it is clear that credit cooperatives will find it impossible to recover even those loans which were not waived — especially those loans which were not waived — and that the principal beneficiaries of the loan waiver, once again, are the well-off borrowers, not the poor for whom it was targeted. It is equally clear that at one stroke, this measure has destroyed the credibility of the entire rural credit structure, a credibility that it will take decades to rebuild.

Protector of the rights of the totality

One of the principal functions of the State is to protect the rights of the individual *vis-à-vis* the society. At the same time, it is also the task of the State to protect the rights of the totality of the Indian people against individuals or groups. It is often said that "the law is an ass; whoever finds the stick to beat it with enslaves the law and makes it serve his purpose." As individuals, we often come across cases of poor people, tribals, women and children who are not able to secure the stick and therefore suffer at the hands of law. Trade unions, consumer associations, producer organizations, etc., are institutional devices, all of which strive to make the law work for their respective patrons.

The totality of the nation's citizenry — and its unborn future generations — are often as weak as a child or a tribal in getting the law to protect its rights. Since the totality will never organize against pressure groups, it will always be exploited unless the State judiciously strikes a balance between the rights of the totality versus the rights of individuals and pressure groups. In actuality, the Indian State has ended up protecting the rights of those sections which are either articulate, or politically active, or both. These include labour unions in organized sectors, *kulak's* organizations such as the *Kisan Sabha,* and vocal urban consumers. Indeed, some of these organizations have become so

powerful that they have begun to detrimentally affect the performance of institutions of economic development.

The increasing conflict between organized labour and achievement of productivity and efficiency gains in the organized sector is a direct consequence of this inability of the State to protect the totality. The principal beneficiary of post-Independence Indian economic development has been organized labour which has usurped for itself a lion's share of the national cake. Moreover, its contribution to nation building has been far from commensurate with its increasing share of that cake. We have created a work ethic which is increasingly hostile to rapid productivity increases, to efficiency gains, and to performance improvements. Leave alone goal achievement, it has become impossible to maintain a rudimentary discipline in many of these organizations. While it is nobody's case that the rights of labour should not be protected, the Indian State has a far greater responsibility to the several hundred million unorganized rural labourers and, of course, the unemployed, than it does to the powerful, tiny minority of organized sector employees. A State whose primary concern is to nurture and strengthen institutions of economic development cannot afford to allow the balance to be so tilted in favour of organized labour that they can eat into the vitals of the nation's institutions and economy.

Institutions as engines of development

The most devastating impact of the Indian State's intervention in the rural economy has been the one on our national mind-set. It has bred a powerful, indelible *sarkar mai-baap* syndrome that pervades the entire development scene. We live in a national ambiance in which only *sarkar* can solve problems. Worse, through the length and breadth of its vast presence, the *sarkar* functionaries, too, have begun to deeply believe in this self-fulfilling prophecy. Even our Planning Commission appears convinced that development occurs only because they tinker around with the allocation of Plan funds. This is naive, to say the least.

Our development planning must recognize that people find their own resources when they come across attractive opportunities and dependable institutions; that engines of economic development cannot be created by merely allocating more “Plan funds”; that genuine institutions of development can be fountainheads of modernization and growth impulses; and that subsidies and investment cannot do the institution’s job. Our development planning needs to reconsider its stance that all development springs from its urn of Plan funds and adopt a more pluralistic, institutionalist approach to development. It needs to realize that true development can occur only as an outcome of a fundamental change in our national mind-set.

What would such change involve? To start with, in my opinion, it would involve the State acting in a cohesive and understanding partnership with the nation’s three principle institutions of development: the legislative framework, the markets, and organizations. We must take a fresh look at our laws and the way they assign property rights and modify them such that they become consistent with our superordinate goal. It would mean continuing “creative self-destruction”, i.e. regular and systematic dismantling of structures, technologies, policies and organizations that have outlived their purpose. It would mean enduring changes to our legal framework. One high priority should be the reform of our antiquated Central and State Cooperative acts, a reform that is long overdue. Much work has already been done by the Chaudhary Brahm Perkash Committee of the Planning Commission on drafting a new bill. This must be passed expeditiously, especially because farmer cooperatives, with enlightened, high quality State support, must play a major role in the new strategy. It is also important to institute legal reforms that contain the damage organized labour and trade unions can do to the nation’s institutions of development.

Institution building

The key to correcting the chemistry between the State and the institutions of economic development lies in the State switching to an institution nurturing role. Rather than directing action, a subtle State can

enable and support strategic organizations — such as the National Dairy Development Board — as instruments of change. Such a role can be played only by a learning State, one which continually and critically evaluates the consequences of its actions, builds an ongoing corpus of such institutionalized learning, and incorporates what it has learned into its design of future actions.

Building strategic organizations is a complex game. A good deal of it generally involves allowing young organizations to have their cake and eat it too — a posture that demands great magnanimity and subtlety. In broad terms, the State needs to consider two positions: first, the State's consultative role should focus on careful structuring of the consonance between the goals of the strategic organizations and the superordinate goal of the State. Second, the interaction between the State and strategic organizations can become nationally and organizationally productive only if control as well as support are linked by a shared understanding of performance needs.

As strategy maker for the national economy

Michael Porter, a distinguished student of competitive strategies, recently explored the reasons why firms that dominate world markets in specific industries happen to come from the same country. Porter considered several alternative hypotheses, but found that "... nations succeed in industries if their national circumstances provide an environment that supports improvement and innovation ... where local circumstances provide an impetus for firms to pursue such strategies (of innovation and improvement) early and aggressively ... (where) their home-base advantages are valuable in other nations and where their innovations and improvements foreshadow international needs." These circumstances are a product of skills and competencies, cultural ethos, institutional structures and related variables operating as a mutually reinforcing system that Porter calls the "national diamond." "Policies implemented without consideration of how they influence the entire system of determinants (or the "national diamond") are as likely to undermine the national advantage as to enhance it."

The cutting and polishing of the "national diamond" is the primary task of the State as the strategy planner for the national economy. In this role, the State needs to orchestrate the nation's long-term economic strategies by constantly analyzing our national strengths and weaknesses in the light of opportunities and threats held out by the global economic environment.

According to Porter, competitive advantage grows fundamentally out of improvement, innovation and change, and involves the entire value system of the society. It is also sustained through relentless improvement and a global approach to strategy. The "national diamond" that the Indian State has created in its first 43 years of governance promotes none of these at any level: individual, organizational, or national. It encourages farmers, workers, firms and markets to look for surpluses not by productivity improvements but by collective bargaining and through lobbying for concessions, rather than through competing in the market place; by seeking protection from global competition and from domestic rivals, rather than by quality and efficiency gains; through concealing mediocrity rather than through the open pursuit of excellence. All these fundamental changes are not easy to accomplish. But, I doubt if we have any option.

In ushering in these changes, the Indian State has to be the prime mover. There is a ground swell of recent opinion that what we need is <u>less</u> State. This is wrong. In my view, it is also neither possible nor desirable. It is not possible for a modern welfare State to go back to what Rousseau called the "State of Nature"; moreover, in the most ardent of the present day free market economies, the State plays a pervasive role in economic affairs. What we need is not less State, but a <u>better</u> State. What we must do is roll back the "awkward State": the "soft State" which legislates far more than it can enforce, the stifler of initiative and creativity, the meddler which takes upon itself what others can do better. Instead, we need a more comprehensive but "subtle" State: a "hard State" which legislates judiciously, but enforces vigorously; a State which skillfully deploys the power of suggestion, which governs through policies rather

than through direct and shoddy action; a State which is concerned more with enabling rather than prescribing and regulating. What we need is a "paradigm shift" in our entire outlook about the equation between the State and society. Only by fundamentally altering this equation can we continually regenerate our agricultural and rural economy and find enduring solutions to the problems of our rural people.

Thank you.

Keynote Address

Maharaja Executive of the Year Award Function

Colombo, Sri Lanka
January 8, 1993

Distinguished Guests, Ladies and Gentlemen ...

I feel greatly honoured by your invitation to deliver the keynote address at the Maharaja Executive of the Year award function here today. Delighted as I certainly am in being here, I must say that in accepting your invitation I have felt a twinge of concern. In fact, I have been wondering to myself if, in inviting me to speak at this function today, someone somewhere has not made an error of judgment. After all, what has a man like me who has spent all his working life — some 40 years in all — as an employee of an Indian farmers' cooperative, what does such a man have in common with the galaxy of corporate executives who are present here today? Is not the ideological distance between us too great to permit us to explore together a common ground between the competing ideologies of people's organizations — which I have spent my life advocating and building — and the raw force of a successful capitalist organizations that I find myself surrounded by?

No doubt there are vast differences of approach between us.

Most of you perhaps believe, as is currently fashionable to do, that the means of production should go where they get paid the most; but I have been among those who have advocated that talent and resources must go where they are needed most.

In your corporations, capital is the pivot of decision-making; but in our cooperatives, the member is supreme and service to him is central to their management.

You are used to a handful of shareholders calling the shots. With us, power must rest with leaders elected by each member casting his single vote, regardless of the number of share he holds.

Considering such diametrically opposite positions, I wondered what good would it do if I talked to such a gathering? But you can now see that I have decided to set aside all these doubts and apprehensions to be with you today. I did so following the dictum: the more diverse the views, the more fruitful the discourse.

It is typical of professionals in most fields that they tend to spend much of their working lives generally lost in their own professional worlds, with little time or energy for the world-at-large. As professional business managers, I have no doubt that you too are preoccupied primarily with your own organization and your own careers. However, I believe that, like other enlightened citizens in developing countries like yours and mine, you the businessmen and professional managers are also interested in the vital issues facing our respective societies. Therefore, I reasoned, you would be interested in learning of our experience of developing and managing businesses of farmers through cooperatives, and the contribution of these cooperatives to the development of our agriculture.

Then, I also thought that after all, it is not as though I have nothing whatever in common with you business managers. In point of fact, way back in 1944 I began my professional career as a young engineer with Tatas. I might even say that it was as an apprentice officer in Tata Steel that I was given my first — and probably the best — lessons in professional management.

And I thought, too, that I am a businessman — though usually not considered as one. As the chairman of the Gujarat Cooperative Milk Marketing Federation, I am accountable to the 1.3 million farmers who have elected me and who own a business with a sales turnover of about 10 billion Indian rupees per year. We expect that over the next five years, that business should increase to more than 15 billion Indian rupees. This is an enterprise that was not inherited, but one that was built from scratch — brick by brick — over the last 40 years. I also happen to be the chairman of the Dairy Board of India, an institution that finances agricultural development projects worth Rs. 1,500 million a year. And, if companies are what you understand best, I am the chairman of the

Hindustan Packaging Company Limited and Hindustan Dairy Machinery Company Ltd. which, together, have an annual turnover of a billion rupees. Yes, I guess that like you, I am a business manager. So, in inviting me to be with you today, you have paid me a compliment as a businessman.

While thanking you for recognizing my role as a businessman, I might mention that it is a matter of curiosity to me — and also some irritation — that in my country I am known less as a business manager and more as a builder of farmer organizations. Many of my countrymen think of me as a kind of "whistle-blower" who does not merely read and think about — but also talks about — the dilemmas of our nation's development; and about the inherently unequal battle within the spaceship earth in which we, the Third World, are unfairly pitted against the rest. It is thoughts about this unequal battle that have engaged my mind during recent months and so I thought I might share some of these with you.

We are passing through an extraordinary moment in history. It is seldom that man has witnessed the dissolution of an ideology, one that until recently was a major world force. At the same time we see old nations reborn, an empire collapse into fragments, new nations emerge. The old equations no longer work; the new dynamics are still unknown.

While all of us should — and I am sure I do — rejoice at the lessening of the tensions that have kept the world in an uneasy state during the years since the last great war, there are those of us who feel less than fully confident about the shape of things to come. I speak not of the possibility that some new nation or alliance may arise to threaten the détente that we now enjoy; rather I am concerned that behind this dramatic and momentous change in world affairs lies a disquieting premise with an ominous conclusion.

For the people from the advanced nations of the world, particularly for those of the so-called West, it may be difficult to fully understand, much less appreciate, the disquiet some of us feel at the end to the Soviet Union's prominent role in world affairs. While, to many in the West, the Soviet Union was viewed as a menacing, militaristic, totalitarian State, for

many of us in the Third World, that nation provided a reassuring counter-balance. Power, unchecked by power, must be based on values and exercised with great wisdom, compassion and maturity. Seldom does history provide us with examples where this has been the case. Power, all too often, has bred excess. Unrestrained, the powerful can come all too soon to believe that might is right. The "New world Orders" of the past have carried within them the seeds of ethnocentrism, militarism and imperialism.

I spoke of a disquieting premise for the dramatic shifts that have changed our world. Those of us who live in the South could believe that *Glasnost* was, in fact*, real politik*. The resources of the world we live in appear increasingly finite, whether they are fossil-based fuels, or even food. Could it have been the case that Mr. Gorbachev looked at this world of diminishing resources and asked: which side should we be on? With the haves? Or the have-nots? Could not the choices he and his colleagues made be reduced to a single major geo-political shift: from East vs. West have we come to North vs. South?

This, in my view, is an unhappy prospect. While the world suffered from the tensions of East and West, those who were non-aligned, or slightly aligned, could take some comfort that those differences served to project and even enhance our national self-interest. I do not feel that this was at all a bad thing.

Today, what seems to be emerging is a new Europe, stretching from Vancouver to Vladivostok — with little outposts in Australia and New Zealand. If this is the way in which our world is coalescing, then we have a divide between North and South, a division based — if I may put it quite baldly — on colour. I believe that this poses many dangers to all of us who inhabit this world, whether we be black or white. It threatens a new imperialism. It would mean that one-fourth of the world's population would occupy three-fourths of its area while the remaining three-fourths of the world's people must make do on but one-fourth of its land. This basic fact, I would argue, is the reason we — in India, in Sri Lanka and in the rest of the so-called Third World — are poor. And, should we not ask the

question: how much of this land in the West was the historical home of its present population, and how much was forcibly occupied?

Today, as the shape of this New World Order emerges from the capitals of the West, we already sense far less tolerance for the differences that arise from the world's diverse historical, cultural, religious and ideological mix. We find it particularly unsettling when the leader of a nation as great as the United States chooses to define that New World Order in such terms as: "What we say goes." This does not seem a very elegant or inspiring vision of a New World. In fact, it is no vision at all. Not when a significant portion of humanity lives on the brink of famine. Not when hundreds of millions go to sleep hungry every night. Not when they sleep on a cold pavement, or in a crumbling shanty. Not when the clothes they wear are tattered and torn. Not when their children do not receive even the simplest forms of medical care or a basic education. We need — all of us, and from all the three worlds — to ask whether our New World Order excludes this part of humanity.

We also need to ask whether what any nation "says" should simply be accepted because, at that moment in history, it has managed to arrogate unto itself a far greater share of the world's resources than have its less fortunate neighbours on this planet. I, personally, am concerned that this can lead to abuses that will ultimately prove self-defeating — not only for the haves, but for all.

This therefore is one aspect of my worry about the emerging World Order. I would argue that a New World Order should be something far more than doing what others say. In fact, I would argue that any New world Order constructed on that premise will soon collapse under its own weight; and therefore, the world must explore and discover other — better — ways.

But my second worry is about how we, in the Third World, will cope with the transition from Old to New World Order. In many ways, these concerns are parallel. In the international arena, the decline of communism created a political void; within nations and their collective

mind-sets, it has created an ideological void. If a united Soviet Union was a counter-point for America, the Marxist system of thought was a counter-point for unfettered capitalism. With the decline of Marxism, I find the nations of the third world striving to surpass each other in dismantling their apparatus of national development and replacing it with market institutions. To the extent this means dismantling bureaucracy, I can see the wisdom and propriety behind this new trend. But I have never been at peace with the view that all will be well — in India, in Sri Lanka and everywhere else where we have problems of poverty and development — as soon as we "get the prices right."

I therefore doubt if we are correct in asserting that the disintegration of the Soviet Union is the same thing as the failure of humankind's experiment with socialism. I would argue, instead, that the decline of the Soviet Union is the same thing as the failure of "statism" — the failure of a system of national governance and management in which the affairs of the society were left to an impersonal bureaucracy and its inanimate ways. What the Russians had built was not the dictatorship of the proletariat but that of the bureaucracy and the communist party. Such an edifice surely could not endure.

From the decline of Russia, thus, I have learned a different lesson. Dismantle bureaucracy? Yes, by all means! Write off socialism? No, not at least in developing countries like India and Sri Lanka, where the helping hand of socialist institutions can protect our poor people from the treachery of market forces. I am told that you in Sri Lanka are actively considering a third alternative: namely people-ization. If this is true, I can only congratulate your country whole-heartedly and wish you well on your chosen path which seems best to me — not only for your country but also for mine. We need a development model that places the instruments of development into the hands of the people. But this is easier said than done!

This I realized years ago when, as a young man looking for a meaningful future in a young nation, I chanced to work for a farmer cooperative. As an employee of the farmers, I began to look at the world

with the eyes of our farmers. And it did look different — it looked dark and sinister. And, full of double standards. Soon after Independence, our leaders emphasized the need for our farmers to emerge: Pandit Nehru even talked, with great flourish, about a rural India convulsed with cooperation.

But, as a young manager of a cooperative, I was perplexed and frustrated. I thought when someone like Pandit Nehru, or Lal Bahadur Shastri, said that India's salvation lay in cooperatives, they were speaking for the Indian State. But I quickly discovered how extraordinarily difficult low level politicians and petty bureaucrats can make it to set up a farmers' business in my country while, at the same time, they pay endless lip service to the need to organize farmers. I found that instead of organizing farmers, we were spending all our energy and resources on overcoming opposition. And, while I could understand having to deal with opposition from the trade and other vested interests, I could not understand why we were having to overcome opposition from the State itself.

This was my bitter introduction to India's statecraft. This is how I realized that Pandit Nehru and Lal Bahadur Shastri did not represent the Indian State. They merely proposed. It was the bureaucrats and the power brokers lower down the ladder who disposed. They came to symbolize, for me, the worst legacy of colonialism.

Now, in the twilight of my career, I have realized that our problem is systemic: bureaucrats are not born, they are made! What I am still uncertain about is whether unleashing the "market" is the answer to the evils of bureaucracy and "statism". In my view, even if it is, it is only so in a limited way. I believe that if our new nations have not done as well as they ought to have, it is because we failed to evolve the right chemistry between the State and our institutions of development. We, in the developing world, need to reformulate this chemistry. We need <u>less</u> of the "awkward" and the "mean" State that we have suffered so far. But, we need <u>more</u> of the "subtle" and the "noble" State. In specific terms, this means three things:

State as the Legislator: The State is the principal law-maker in any society; it sets the rules of the game. The legal framework provides the foundation of any modern, civilized society. However, if this framework is not adaptable to the needs of a modernizing society, it can stifle its institutions of development.

State as the protector of the institutions of development: The most important role of the State is to protect the institutions of development. In most developing countries, the State has been more predator than protector, devouring institutions of economic development, often for narrow, parochial and short-lived political gains.

State as the protector of the rights of the totality: It is well recognized that the state must protect the rights of the individual *vis-à-vis* society. Possibly it is less well understood that it is also the State's role to protect the rights of the totality of its citizenry against individuals or groups, those who would place pressure on the State to achieve their own ends at the cost of the totality. Trade unions, consumer associations, producer associations all are devices which strive to make the law work for their constituencies. Since the totality never organize against pressure groups, they will always be exploited by these groups unless the State is able to strike a balance between the rights of the individual, the rights of pressure groups, and the rights of the totality.

State as nurturer of institutions: The key to reformulating the chemistry between the State and institutions of economic development lies in the State transforming its role into one that nurtures such institutions. Rather than taking direct action, a subtle State can enable and support strategic organizations engaged in the process of social and economic change. Nurturing strategic organizations is complex: it involves great magnanimity and subtlety. It also involves humility and trust. The State must acquire these qualities.

Finally, the State will have to give shape to what the academician of competitive strategies, Michael Porter, has called the "national diamond" — the policies, incentives, institutions and all the other factors that go into

the competitive advantage of nations. The cutting and polishing of the "national diamond" is a primary task of the State. In performing this task and ushering in these changes, the State must be the prime mover. This is not a glamorous task, but it is the one on which a strong economy depends.

There is a ground swell of recent opinion that holds that we need less State. I disagree. In my view, "less" state is neither possible, nor desirable. It is not possible for modern, welfare States to return to what Rousseau called the "State of Nature". Moreover, even in the most committed of present day free market economies, the State plays a pervasive role both in economic affairs and in maintaining the social services on which the rich and poor of a nation depend. What we need, therefore, is not "less" State, but a "better" State. What we must do is to roll back the "awkward" State: the "soft" State which legislates far more than it can enforce, the stifler of initiative and creativity, the usurper that takes upon itself what others can do better. Instead, we need a more comprehensive but "subtle" State: a "hard" State that legislates judiciously, but enforces vigorously; a State that skillfully deploys the power of suggestion, one which governs through policies rather than employing direct and ineffectual action; a state concerned with enabling — not with regulating. What we need is a "paradigm shift" in our entire outlook about the equation between the State and society. Only by fundamentally altering this equation can we continually regenerate economies and societies, and find enduring solutions to the problems of our people.

Before I conclude, I would be remiss if I did not congratulate the winner of today's Maharaja Executive of the Year Award. You certainly have my good wishes. I have no doubt that, with your work and ingenuity, you will continue to do your organization proud. However, I must also say that, like my country does, yours too expects more from professional managers than just return on investment and favourable financial ratios; our respective countries summon us to deploy our skills and professionalism to solve larger problems facing our societies. I will look

forward to the day when, by applying your talents to such larger problems, you will do your country proud.

Thank you.

Vaikunth Mehta Memorial Lecture on Cooperative Leadership

New Delhi
February 3, 1993

Mr. Chairman, fellow cooperators, distinguished guests, ladies and gentlemen ...

Whenever I am asked to talk to a gathering that includes cooperative leaders, I must say that I approach the invitation with some wariness. Has the fox been invited into the chicken coop? Or has the chicken be invited to dine with the foxes?

To speak on the subject of cooperative leadership is a most difficult thing for me to do. It not only involves an introspection on my part, but also requires a critical examination of the work of many people who, at some point in time, had worked along with me. Naturally, when I was asked to speak on the subject, I was hesitant. It is an easy job to do so on paper — as I had done some time ago for your journal. But if I speak on the same topic, after such a short time, I risk repeating points raised earlier.

In the 1950s, a Commission that studied cooperatives said, “Cooperatives have failed; cooperatives must succeed.” I think that, today, we can say without too much exaggeration, “India has no cooperatives; India must have cooperatives.” A believer in the importance of cooperatives cannot but weep at the state of affairs today. A movement that should place the instruments of development in the hands of the people has been hijacked by a coterie of individuals whose lack of knowledge of cooperation is matched only by the arrogance of their pretensions and the rapacity with which they appropriate what was created by, and belongs to, our farmers. It is, therefore, imperative that the role of cooperative leadership in protecting, preserving and exemplifying the values of cooperation be probed in detail, and thereafter we must examine the ways in which we can ensure that a leadership evolves that will play its role properly.

Let it be clear at the outset that, even today, there are honourable exceptions: there are leaders with a correct concept of cooperation who strive to protect its values against the depredations of those who seek power, patronage and self-aggrandizement. Unfortunately, these honourable and committed leaders form the exception. How far we have traveled from the day when pillars of principle and probity like Shri Vaikunthbhai Mehta gave us all hope that cooperation would transform rural India.

Our first task, in this situation, is to know what is a leader and what are cooperative values.

A leader is not simply someone who, by hook or by crook, has managed to occupy a chair. Leadership involves far more than that. True leadership is based not on force, favour or factionalism; rather it is based on vision, integrity and courage. A true leader does not lead because he can manage to mobilize a mob of undesirable elements to advance his cause; he leads because he has a clear vision of what people can achieve together and the commitment to see it through. A true leader does not use patronage — and worse — to win the loyalty of his followers; he consistently acts on principle and leads on the basis of the respect that integrity engenders. A true leader does not survive because he is able to pit one group against another, and to deftly shift sides and causes at each turn of the tide; he is an individual of courage and conviction, ready to stand on principle and committed to unify rather than divide.

Those among the audience who have worked with our nation’s rural people know that these leadership qualities are found in men and women in all our villages. This is all the more so because most of the unscrupulous have migrated to the cities. It was our dream that cooperatives would provide a training ground for these leaders; equipping them with the skills, adding depth and breadth to their vision, and steeling their commitment to serve their people with honour and integrity.

Why then, when we survey the landscape of cooperation, does the scenery appear so bleak? Why is it that instead of women and men of

class and character, we find our unions and federations led by those who hardly represent the interests of the thousands or tens of thousands whose resources — and very futures — are in their trust?

The first culprit is our archaic cooperative law and regulation. Our colonial masters introduced cooperation to quell rural discontent and did so with the view that the "native" could not be trusted. Therefore, they evolved a framework of law and regulation that was designed to give the powers of life and death to a Registrar. How naive of the worldly British lords to have believed that honesty could be compelled from without, when, as should be obvious, it can only be enforced from within!

But a more calamitous mistake was committed by our newly independent nation when we did not simply dispose of such archaic and alien legislation and start afresh with a cooperative law designed to place responsibility and accountability in the hands of the cooperative owners themselves.

As we simply continued the British law, only adding to it new ways and means to interfere, we opened the door to all forms of misuse and abuse of cooperatives by anybody and everybody who was so inclined. Thus we have evolved through this process a nexus of politician and bureaucrat which has appropriated not only the resources that truly belong to our farmers, but more tragically, the dream that was once called cooperation.

I must next fault our bureaucrats. Our Constitution had created an All India Service to provide a strong infrastructure of officers with ability, wisdom and principle. I fear the reality is something quite different. How many administrators, given the responsibilities of a Registrar, have carefully considered the principles and techniques of cooperation and conducted their office in consonance therewith? I fear they have been very few. Hardly do I know of any instance, in the last four decades of my involvement with cooperatives, when an administrator assigned to manage a cooperative federation engaged in a complex and specialized business, saying with honesty and humility that such an enterprise would

better be managed by an experienced professional than by a generalist administrator.

How many administrators have sought to clearly understand the important link of accountability that is essential to cooperation: management accountable to a board which, in turn, is accountable to the members? How many have then tried to ensure that all the conditions were met to ensure that this link was maintained and strengthened? I know of very few.

How many of our administrators — those who are fond of calling themselves the "friends, philosophers and guides" of cooperation and who rue that the inherent problems of our society render it inevitable that cooperatives will fail — how many of them recognize that what they call cooperatives are not cooperatives at all, but simply state enterprises with a different label? Very, very few.

Let us also ask, how many administrators have connived with politicians to delay or manipulate cooperative elections? How many sit in air-conditioned offices, ride in air-conditioned cars, and furnish their homes and feather their nests with the fruits of the farmers' toil? I fear it is all too many.

Last, and most important, I fault ourselves. We who believed in cooperation believed that leaders would not only intuitively grasp the principles and values of cooperation, they would seize them with a commitment sufficient to ensure that no temptation or threat could divert them from their course. We failed to understand the need to educate, to train and to nurture the values on which cooperation must be built.

What are those values? They are part and parcel of the principles of cooperation, principles that have been formulated by the international cooperative movement under the chairmanship of one of our most distinguished cooperative leaders: Professor Karve. Those who would search for cooperative values must begin with these principles which are as follows: open and voluntary membership; democratic governance;

limited privilege to capital; equitable distribution of surplus; cooperation between cooperatives; and cooperative education.

I am sure that many are now thinking, “such lofty principles are mere rhetoric. How can we expect our cooperative leaders to put aside their self-interest and act in such a honourable and selfless way?”

I would argue that is in the self-interest of our cooperative leadership to act precisely on the basis of these principles. What benefits ultimately accrue to the leader who everyone knows has looted a cooperative, or filled its posts with his friends and family, or abused his trust by giving contracts and benefits in return for favours? While such “leaders” may survive for a while, ultimately they earn their just rewards at the hands of angry and disillusioned members.

Think, for a moment, what benefit might accrue to the cooperative leader who works selflessly, with dedication, diligence and honesty, to build a vital, strong cooperative structure. Would not that individual earn the respect, trust, admiration and — if he or she may so choose — the votes of the thousands or tens of thousands whose lives have improved as a result? That is real self-interest.

How then can we help to ensure that our leaders become the true guardians of cooperative values? I believe that the answers should be self-evident.

First, true believers in the importance of cooperation must coalesce to replace the existing archaic and repressive cooperative legislation with new laws that place responsibility and accountability in the right hands.

Second, our present generation of cooperative leaders must recognize, and must act to preserve and protect those rights that they have even under the present law.

Third, those in government who understand cooperation and its principles must take the lead in withdrawing from the over-regulation and

direct management of cooperatives, leaving these people's institutions to regulate and manage themselves.

Fourth, the process of educating and training a new generation of cooperative leadership should begin with the same energy and commitment that was used earlier to promote and support new cooperatives.

During December 1992, the Institute of Rural Management at Anand had played host to a Symposium for over 300 researchers, academicians, cooperators and like-minded people who had toiled for a year researching various aspects of the management of rural cooperatives. I was surprised — despite my healthy distaste for academicians — that many viewpoints that I had developed over the last 45 years of working with farmer cooperatives stood vindicated by much of the research presented in the Symposium. For example, I have always held the view — and I may have mentioned it once or twice in public forums — that the Indian State and its bureaucracy are the most powerful obstacles to cooperation. I have always believed that a law cannot compel people to be good and, therefore, the whole apparatus of regulation and enforcement that we have created has only served to relieve our cooperative leaders of their fundamental accountability to the members. There was much in the Symposium proceedings to support that view. The Symposium also emphasized that the education of those members is essential to the success of our cooperatives.

Let me take this opportunity to present some salient points about cooperative leadership that emerged from the Symposium. First, it was brought home clearly that the grammar of cooperative principles is not necessarily the best starting point for leadership training. Rather, an understanding of life experience and the many ways in which "mutuality" can be nurtured is far more important. Once one has learned this, the grammar of cooperative principles will reinforce that learning, not vice versa.

Leaders should not be lackeys, but should make bold to examine and question the guidelines and rules handed to them from funding agencies, the state, or whomsoever. Appropriate modifications would further enhance the effectiveness of their institutions. Unless leaders question these guidelines, they cannot improve upon them. Help from the leaders in developing better designs for cooperative institutions is very important.

The role of leaders is critical to harmony — harmony with the state, harmony between members, harmony between tiers of the movement, and harmony between the cooperative and non-members. The use of power to claim the proverbial pound of flesh may be a reality, but its single-minded pursuit is counterproductive. Elections are critical and necessary, even if there may not be sufficient conditions for ensuring harmony.

Politics need not be a bad word. Politics could mean arguing and influencing decisions within organizations. It could be a useful tool for a manager in cases of transactions between different tiers. A leadership role consists in ensuring that this politics is kept healthy and serves to complement the politics that leaders have to engage in with the greater political structure.

For any innovation to succeed, support from leaders is of vital importance. Leaders should develop a sixth sense to critically assess such innovations without stepping into the areas where the professional is responsible. A symbiotic relationship between the policy-maker and the manager calls for the leader to take a balanced, mature and sensitive view of his role and that of the professional.

Leaders who like to keep others on a short leash are doing the wrong thing. Power “with” is far greater than power “over”.

In every successful grass-roots cooperative, members trust their leaders. Trust is the most cost-effective way to manage cooperatives. But trust is not built on flimsy foundations of parochial affiliations like caste

and community. Rather, it is built on the demonstration of entrepreneurship, transparent honesty and commitment to the concept of "trusteeship."

Leadership must take the lead in striking the fine balance between the drive to optimize profits and ensuring equity amongst members. Continued member loyalty can be assured only by solid achievements in both areas.

Education of the membership is a prime responsibility of leaders. It comes not from preaching, but from example.

It is now a great many years since, by accident, I happened to become involved with cooperatives. It was my good fortune to work with leaders like Shri Tribhuvandas Patel, leaders who exemplified the principles and practices of cooperation. And it was through these leaders that I saw how these principles could transform the lives of tens, and even hundreds of thousands of people.

If we can again create the environment, the opportunity and the education, our villages will provide a new generation of leaders who will not only rebuild our cooperative movement, but who will help us to build a truly great nation. This, then, is the task ahead. We know it can be done. We know how to do it. It is only a question of whether we have the will to proceed.

Thank you.

Seventh World Conference on Animal Production

Implementing National Genetic Improvement: Politics, Policies, Practicalities

University of Alberta
Edmonton, Canada
June 30, 1993

Ladies and gentlemen,

When I was asked to speak to this VIIth World Conference on Animal Production, I was both surprised and somewhat reluctant to accept. I was surprised because when I have been offered similar platforms in the past it has been my practice to speak rather bluntly about issues on which I feel quite strongly. It is surprising that such bluntness engenders future invitations. I was reluctant because although it has been my privilege to be associated with some modest efforts in animal production, it would be a stretch of imagination to call me an expert.

Ultimately I decided to accept your kind invitation for two reasons. First, my country and the projects with which I have been associated have received considerable support -- financial, material and moral -- from the cooperatives, the people and the Government of Canada. This provides me with an opportunity to express to you our gratitude for your generosity.

The second reason is, I fear, more in line with my reputation. The events of the last few years have caused some rather dramatic changes in the way the world appears and in the way it is organised. It is my belief that some important misconceptions have begun to shape policies in my country and in other countries around the world. This forum provides me with the opportunity to share a few of my views on this subject.

Introduction

Let me turn first, however, to my assigned task which is to discuss "National Genetic Improvement" and such interesting matters as politics, policies and practicalities.

At about the time I was considering what I might say on this occasion, a very interesting item appeared in some of our newspapers. The headline of one read, "How now, poor cow, being blamed for acid rain art thou?"

My first reaction was, "haven't I got enough problems without this" and "no doubt our Indian cattle will now be charged with acidification of lakes in Canada and for the devastation of German forests."

Some of you may find this paranoia rather amusing. Let me assure you, however, that I am serious. It was not very long ago that scientists in search of good themes for international conferences hit upon the methane emission of cattle as a prime culprit in the puncturing of the ozone layer. It didn't take much of a leap of imagination for people to begin pointing a rather long and accusing finger at my country: after all we do have almost as many cows and buffalo as we have people. For a while barely a day passed without one environmentalist or another talking about how "those unproductive Indian cattle" were destroying the ecosystem. We were sufficiently concerned to take a serious look at the question and even went to the extent of consulting some organisations like World Watch. What we ultimately learned is that all the cattle in the world produce a relatively small portion of the total methane generated -- rice paddies produce quite a bit more -- and methane itself is still considered a rather minor cause of the degradation of the ozone layer and other ecological ills. And, fortunately, as many cattle as we may have, ours are only a portion of the world's bovine population.

I suspect, too, that the combined emissions of all the ruminants all over the world is still so small as to be insignificant when compared with the "contribution" of the industrial nations. What comparison is there between the methane from the world's ruminants and the emissions from

millions of automobiles inching along during rush hour traffic in the industrialized world?

I have mentioned all of this because the reaction of the environmentalists to our Indian cattle and buffalo population is instructive. You will recall that I cited their language ... "those *unproductive* Indian cattle". And, for people accustomed to the stall-fed milk machines or feedlot meat factories of the North, perhaps our cows and buffaloes do look unproductive. Let me, if I may, explain why I think things are not quite so simple.

Almost all over the developing world, farmers are among the poorest of the poor. They lack sophistication. They lack skills. They are illiterate or semi-literate. And they can seldom afford the technologies and tools, modern science has made available.

Another characteristic of animal husbandry in the developing world is its total dependence on crop residues, and idle family labour, avoiding all forms of capital intensive infrastructure. Barring Asia's few -- and Africa's somewhat more numerous -- nomadic herdsmen, the livestock wealth of a farm family is very small: one to two cows or buffaloes; or in other cases a few sheep or goats; or in yet others a few chickens or a combination of some of these.

Unlike animal wealth, land holding patterns, at least in India, are skewed with rather smaller numbers of rich land owners having a rather larger proportion of the good land. This means that the gains from animal produce tend to be more equitably distributed than those from crop income. The very survival of the system owes to its complementarity to crop husbandry, offering no competition whatsoever to human needs.

Poor and deprived though they may be, our farmers are not inferior to their sophisticated, skilled and comparatively more affluent counterparts in the developed world. They are the products of the accumulated wisdom and culture of hundreds of human generations. They have the resilience to withstand and overcome untold hardships and

possess uncanny instincts for survival. That we in India are now in a position to enjoy some measure of food security, in spite of our ever growing human population, is evidence of our farmers' ability to perform well under far from ideal conditions.

Problem of Numbers -- Too many cattle and buffaloes

With that background, let us then turn to the "problem" of numbers: too many *unproductive* cattle and other livestock; acute scarcity of feeds and fodder; relentless pressure on limited land to feed and clothe the human population; and, above all, religious sentiments that mitigate against slaughter and elimination.

This, I suspect, is the statement of the problem that many of you have heard over and over, perhaps from the time you took geography in the third grade.

Yet, at least in case of the cattle, the very large numbers are an unavoidable necessity: this is simply because the male of the species -- the bullock or the ox -- provides the bulk of the farm power for crop production.

Oxen till some 90percent of India's 148 million hectares of arable land, some 75 million of them, or almost four hectares per pair. They account for an equivalent of some 80,000 megawatts of farm power. With increasing availability of irrigation and the intensity of cultivation that follows, these numbers are likely to go up to some 100 million by the turn of the century.

Replacement of our 75 million bullocks is at the rate of about 8 million each year. To produce these annual replacements, we have to commit some 40 million of our cows -- allowing for some calf mortality and the long inter-calving periods.

India has only some 55 million adult breedable cows, Of these, 40 million are committed to bullock production alone. Only the remaining 15

million are available for milk production. Perhaps you would wonder why all the 55 million cannot be bred for milk as a male calf can, in any case, be used for work. Unfortunately, this won't work. We have learned through experience that bullocks have to be of the Indian *Bos Zebu* type. Crossbred bullocks -- crosses of Indian breeds with *Bos Taurus* -- breeds are unsuitable as draught animals in the tropics.

The last factor I would ask you to consider is the need not to encourage competition between man and beast. Our cattle must survive and even thrive on straw and stovers -- not on the rich diet of compound feed and lush pastures that your cattle enjoy.

I hope you will agree that the matter of our *unproductive* cattle is not quite as simple as it might first have appeared.

Need for Reduction in Numbers

And yet we would agree that there is no alternative but to reduce the overall size of our ruminant population. Enhancing the productivity of our livestock would appear to be the only tenable solution to the reduction in numbers in a way that is consistent with what I would take the liberty of describing as our "nature friendly" system of animal agriculture.

I spoke of our draught bullocks. Some 80percent of them are of nondescript origin -- small in size and limited in their work output. We have in India some of the world's finest draught breeds of cattle: but they constitute only one-fifth of the total animal work force. These draught bullocks are sturdy, well-built animals capable of more than double the work output of their nondescript cousins. Progressive upgrading of the national draught animal breeds could reduce the requirement of work animals from the present 75 million to less than 50 million. With carefully planned bull selection and bull production programmes for natural service or artificial insemination, this reduction can be brought about over a couple of decades.

Large scale mechanization for farm power is unlikely and undesirable in the foreseeable future as it would not only increase the country's dependence on fossil fuels enormously, but would also replace methane with an equal or greater menace to the environment. However, gradual replacement of some of our work animals with custom-hire service tractors and power tillers is possible. If we could halve the animal work force, we could also halve the annual replacement numbers and hence, the number of cows committed to bullock production -- from 40 million to 20 million. This would in reality be the turning point in our country towards a sustainable, nature friendly animal agriculture.

Production in Small Holdings -- need for institutional infrastructure

Milk production in India, is in widely scattered small holdings. Millions of our cooperative members produce only 2 to 4 litres a day. If these farmers cannot sell what little they produce now at a fair return, there is no need for genetic improvement. Obtaining a fair return is not easy: milk is a perishable commodity and our large urban demand centres are few and far between. An efficient institutional infrastructure to collect these small quantities of milk from the millions of scattered small holdings and to deliver it after due processing to the far-flung urban markets is a *sine quo non*.

It is also necessary that the same infrastructure in developing countries -- in India particularly -- be owned and managed by the producers themselves. Milk is the livelihood of millions of our poor farmers. If the terms of trade in milk and milk products are not fair, it will wreak havoc on the lives and economy of the most underprivileged in our society -- producers as well as consumers. We have all too many examples -- in India as well as in our neighbouring countries -- of how multinational firms have plundered our economies. Strong farmer organisations that directly link rural producers with urban markets, eliminating the middle men, are the only foundation on which genetic and other improvements can be built. In India, we have succeeded in some

measure in building up such farmer organisations, but many of our neighbours have not been as fortunate.

Low Genetic Potential and Stress Factors

In developing countries, livestock in general -- and cows and buffaloes in particular -- are low producers with low genetic potential for production traits. It is also true that current feeding and management practices are such that these animals are unable to fully express even their meager production potential. There is of course no escape from such environmental stress factors as heat, drought and flood. In addition to these, our cattle must also cope with enormous nutritional and disease stress. Improvement of the production environment must precede any attempt to raise livestock productivity in the developing countries.

I would like to think that the market stimulus provided by the rapid growth of India's dairy cooperative movement and the inputs to improve feeding and management supplied by cooperatives have already resulted in a demonstrable impact on milk production -- a nearly three-fold increase from 22 million tons annually in 1970 to 59 million tons in 1993, and a sustained growth rate of 5 to 6percent annually.

Strategies for Productivity Enhancement

We are now concerned with devising genetic improvement programmes and breeding policies for cattle and buffalo with the twin objectives of achieving milk production of some 80 million tons annually by the turn of the century while sustaining an animal work force adequate to till the land. Both should be achieved along with a substantial reduction in the country's total large ruminant population. We have two specific targets:

(1) to produce the desired mix of the bovine population; and

(2) to achieve the desired production levels in the different groups of bovines.

The mix we need and which we can sustain at the end of the first quarter of the 21st century -- 30 years from now -- is 40 to 50 million well-bred, sturdy, work animals; and 15 to 17 million high-yielding crossbred cows; 7 to 10 million improved buffaloes with a supporting population for each, constituting a "National Milch Herd".

We believe that by 2025 we will be able to reduce the large ruminant population from 270 to 200 million. As work and milch animal productivity increases, further reductions will take place providing a larger feed and fodder base for the remaining population. The achievement of these goals will depend on the progressive containment, control and then the eradication of epidemics of Foot and Mouth Disease, Rinderpest and a host of other contagious diseases. Development of good quality vaccines and diagnostics, methodical and systematic animal disease control programmes, disease surveillance and reporting systems, supported by appropriate legislation and extension services, are all essential components of a genetic improvement programme in a country like India.

Feed and fodder availability in India falls far short of requirements: a very large bovine population now shares these inadequate resources. Given the priority that must be given to feeding our human population, irrigated fodder production cannot be widely practiced in India. While fodder research and development has resulted in many high yielding varieties, and while some progressive dairy farmers have taken to irrigated fodder crop production, the limited supply of quality fodder crops can only be used to feed the highest yielding milch animals -- cows as well as buffaloes -- leaving the bulk of crop residues like straw and stovers to feed less productive animals and draught bullocks. Even the higher yielding animals have to depend to some extent on crop residues, supplemented with balanced concentrate feeds to support milk production. Balanced concentrate feeds will also play a role in marginally supporting the animal work force, particularly during the work seasons. Thus, a judicious distribution of the available feeds and fodder among the different bovine production groups within a smaller overall bovine population, will enable the country to support the incremental milk and

work output. A marginal increase in the production of feed ingredients like coarse grains, brans and other offals, and oil cakes and their extractions would further ease the feed situation. This of course is a possibility considering the present growth rate of grain and oil seed production.

Breeding Policy and Specific Technique Used

Our national policy for milk production enhancement is largely based on crossbreeding the indigenous foundation population of cattle with selected European dairy breeds, primarily Holstein and Jersey. Of our 55 million milch cows, we hope to replace 15 million with highly productive crossbred cows, bred to a 50-75percent exotic level using *inter se* breeding with proven cross-bred bulls. This, we hope, will ensure progressive evolution of an animal that is both high yielding as well as suited to our environment.

Some of our *Bos zebu* milch breeds (the *Gir*, *Kankre*j, *Tharparkar*, etc.) will also receive focused attention for selective improvement within their natural breeding tracts. The buffaloes -- India has the riverine type of milch breeds -- are simultaneously receiving considerable breeding attention. At present, the buffalo is the mainstay of India's dairy industry -- some 55percent of the milk produced in the country is buffalo milk. The *Murrah* breed is the target for genetic improvement. Selected *Murrah* bulls are also used for progressive upgrading of nondescript buffaloes.

The final bovine population mix we arrive at -- or the "National Milch Herd" -- would include some 7 to 10 million high yielding improved *Murrah* type buffaloes.

There are other good buffalo breeds like the *Jaffarabadi* in West Gujarat. These are excellent milk and meat producers and receive specific attention for genetic improvement within their breeding tract.

Having talked about the breeding policy for increased milk production, I would now, turn to the development of good draught animals -- work bullocks in particular. India still has large herds of well-defined draft breeds of cattle -- the *Haryana*, *Nagauri*, *Kankrej*, *Ongole*, *Amritmahal* and *Kangayam* -- spread throughout the country. Each such breed has evolved and is most productive in specific areas. Our national effort is to multiply and select among these breeds in order to provide good bulls for natural mating with the local nondescript cows. Though slower than A.I., this approach is designed to progressively upgrade the bullock population so that by 2025 AD a substantial number of the work animal population would be made up of these improved bullocks.

In the absence of both the will and the means to achieve it, a policy is, of course, only a wish . India's size, the diversity of our social systems, culture, climate and even animal breeds impose challenges and constraints not often encountered in other places.

For the last 25 years, it has been our conviction that the only way in which we could encourage change in dairying -- the only way in which we could help create both the means and the will -- was to have faith in the women and men who produce our nation's milk. It was for this reason that we have attempted to promote, finance and support a cooperative dairy structure, not only to implement, but to become the driving force in national planning and policy for the dairy sector.

The results are encouraging. India has, perhaps, the largest single artificial insemination network for cattle and buffaloes in the world: more than 40,000 A.I. outlets, supported by 68 frozen semen production stations and stud farms which jointly produce 18 to 20 million doses of semen, and which do about 18 million artificial inseminations annually.

As extensive as this A.I. system is, it covers only a small part of our breedable cattle population -- less than 15percent. The success rate for A.I., compared to that in the developed countries, needs improvement. There are many reasons for this: some of the semen is still chilled, not frozen; a variety of handling problems, poor quality and poorly-fed cows,

inadequately trained technicians all contribute to lower pregnancy rates. In spite of these problems, AI programmes have added more than 10 million cross bred cows and 4 million improved buffaloes to the "National Milch Herd" during the last two decades.

Our strategies for accelerating these developments include:

1) a national bull production programme using embryo transfer technology for producing and evaluating sires through a network of organised farms;

2) introduction of the Open Nucleus Breeding System (ONBS);

3) emphasis on Progeny Testing Programmes based on milk recording and contemporary comparison;

4) setting up of bull mother farms for producing superior pedigreed bulls both for cattle and buffaloes.

Policy Environment

A couple of years ago on a visit to Canada I spoke to food scientists about how the vast changes in the world political system were a source of growing concern to many of us in the South. We saw the very real possibility of North versus South with the poor of this world ranged against the economic, political and military might of a New Europe stretching from Vancouver to Vladivostock. Things have not proved so simple. Yet I see even greater concerns looming, some of which have begun to affect much of the work we have done in India during the last four decades.

My country is in the midst of a process of "economic liberalization". We are moving as quickly as we can to create the conditions for full participation in a world economy. This has involved dismantling some of the bureaucratic obstacles to business -- though regrettably the obstacles to *cooperative* business remain largely intact.

One of the steps that has been taken by my Government is to end licensing in the dairy sector. An interim measure to permit a smoother transition to competition for our cooperatives, and to introduce the standards necessary for a modern dairy industry, has met with fierce resistance from the "private sector" and, especially from multinationals engaged in the milk product business.

Our experience in trying to convince our Government of the importance of playing some role in regulating the dairy industry has led me to reflect on what I think may be a rather serious misconception. As it affects all of us, I thought to share some thoughts on this subject.

When I have argued that there was a need to take at least those steps necessary to ensure the orderly growth of our dairy industry, the response I have heard more often than not is: leave it to the market place. I might mention that some of these free marketeers were, only a few years ago, some of our staunchest socialists and advocates of centralized planning. I fought with them then; and regrettably I must fight them now.

There seems to be, if you'll pardon my saying so, some confusion between the terms "democracy" and "free market". If the socialist block has crumbled, I for one would argue that it was not because they had a planned and controlled economy: Rather, it was because they denied their citizens a voice in their own governance and because, as a result, the rulers lacked accountability to the ruled. It was man's desire for *freedom* -- not his desire for a free market -- that led to the great changes we have witnessed over the last few years.

However, this confusion persists. In their haste to respond to the perceived imperatives of "The New World Order", countries are competing with one another to "liberalize" their economies. "Privatization", "delicensing", "deregulation" and "market force" are the *mantras* national leaders and bureaucrats are repeating from morning till night.

Now, I have talked to dairymen from England, from Canada and the United States, and from most of the European countries. As far as I can make out, they not only don't compete in a "free market", they would be loathe to do so. As for regulation, some of the more enlightened would credit the growth of their industry to the strict standards and stricter enforcement that they must contend with. While competition may be theoretically unrestricted, the competitors have long since learned that truly "perfect competition" eventually results in no profits -- and that is something that most sensible businessmen try to avoid.

We seem now to have reached the point where a strong "national economy" is considered an end in itself and the "free market" the way to achieve that end.

Pardon me if I demur.

A strong national economy is a means, not an ends. In the brief history of man, both nations and national economies have had an even briefer life. Emphasis on a national economy made sense in an insular world; it makes little sense in today's world where economies are no respecters of national boundaries. What is important is that a nation's economy be strong enough to sustain a strong, healthy, just and humane society, a society in which the greatest possible number of citizens have the opportunity to attain their fullest potential as human beings.

Free markets do not set optimal prices for things like equality and justice. They do not allocate marginal resources for public health and education. They do not carry out transactions intended to redress the effects of generations of colonialism or racial discrimination. Yet it is to the free market that many of our political leaders would have us commit our futures.

Pardon me if I say that this is not for me.

Close to five decades ago I happened to find myself -- rather unwillingly I might add -- in a dusty, god-forsaken little town in Gujarat. It

was my good fortune to become acquainted with a small band of men who had spent their lives trying to free my nation from colonial rule. They had the wisdom to recognise that the simple transfer of political power was not freedom. Freedom was not even the control over the resources that our farmers produced. Freedom was the willingness to accept responsibility for shaping a just and equitable society. They believed that cooperatives would help our farmers -- women and men who had been oppressed for generations -- to learn that responsibility. We have not succeeded as much as we had hoped. But neither have we failed. It is a long and difficult task and, at worst, we under-estimated the complexity and the time it would take.

Our task remains only partly done. While we go about trying to improve the productivity of our livestock and while we attempt to build a modern dairy industry, our real task is to pass the responsibility for that enterprise to our farmers. For, after all, true development is the development of man.

Thank you.

PRESENTATION ON NATIONAL AGRICULTURAL POLICY RESOLUTION

to the

PARLIAMENTARY STANDING COMMITTEE ON AGRICULTURE

New Delhi
September 9, 1993

Mr. Chairman, members of the Parliamentary Standing Committee on Agriculture...

I am both honoured and pleased to have this opportunity to meet with you today to share some observations on the National Agricultural Policy Resolution. In doing so, I draw on more than forty years as an employee of our nation's farmers. From this experience I have developed some rather firm convictions regarding the problems faced by our farmers, and also as to the most useful ways in which to approach the solution to such problems. As your responsibilities include advice and counsel to Government on such matters, I very much welcome the opportunity to share my thoughts with you

Consideration of the proposed National Agricultural Policy Resolution is of the utmost importance: the Policy should chart the future of our nation's agriculture into the next century. While the proposed policy resolution contains much that is admirable, it is important at this stage to view our nation's agriculture with a view to future opportunities and constraints rather than past successes and failures.

One of the most important elements in any future scenario is Government's new economic policy of liberalization which, while no doubt timely and beneficial to the country's economy, has been widely perceived -- particularly in our rural areas -- as focused on big business and multinationals. This widespread perception makes it all the more essential that a National Agricultural Policy make a clear and compelling statement of commitment to the farmers on whom the nation depends for its food and fibre.

The stated function of the Department of Agriculture and Cooperation has been "formulation and implementation of national

policies and programmes aimed at achieving rapid agricultural growth through the optimum utilization of the country's land, water, soil, plants, animal, dairy and fishery resources."

This statement unintentionally highlights the fundamental misconception that it is Government that promotes agricultural growth. It is not. We must recognise that the pace and quality of agricultural growth -- and therefore of our nation's growth -- depends on our farmers. Government can support our farmers' efforts through appropriate policies and programmes; it can retard their progress -- as perhaps has happened on occasion -- or it can prove largely irrelevant.

It may therefore be suggested that the primary function, or Mission, of Government with respect to agriculture is to adopt and effectively implement such policies and programmes that will help our nation's farmers to rapidly increase their productivity and incomes, while restoring and protecting the environmental resources on which our farmers, and our nation, depend.

The proposed National Agriculture Policy appears to include the following elements:

> Shifting resources from subsidies to "capital formation and infrastructure building" by allowing market forces to encourage increased farmer investments.
>
> Public investment in infrastructure (research, irrigation, power, transport, roads, markets, storage, processing and plastics); use of renewable energy; reduction in regional imbalances; and increasing exportable value-added products.
>
> Ensuring credit flow to the sector by giving Government's *fullest support to cooperative societies "which are engaged in economically viable ventures, are professionally managed and democratically run"*; **modifying cooperative laws to strengthen democratic management and freeing**

cooperatives from state controls; continued financial and extension support to societies in areas where the movement is weak.

Improvement in marketing of produce and development of post-harvest technologies; spreading out agro-processing units "for generating employment opportunities in rural areas."

Credit flow arrangements and crop insurance schemes to insulate farmers from the financial distress of failed rains, etc.

Ensuring a favourable economic environment for all sections of the farming community to achieve "cost efficiency, foreign exchange earnings and increased capital formation".

Developing effective systems and bestowing on agriculture similar benefits to those enjoyed by industry; exemption of farmers from capital gains tax on compulsory acquisition of agricultural land within municipal limits.

Pursuit of land reform.

Reclamation of degraded lands; conservation of rain water "with the help of self-regulating beneficiary groups consisting of landless agricultural labour and small and marginal farmers."

This policy does not depart from the policies and programmes pursued during the last forty years. It relies on continued involvement of Government and its instrumentalities and inadequately recognizes the reality that agricultural growth will only result from allowing our farmers -- and their own institutions -- to manage the resources that they own and create. The policy, as articulated, continues to view the farmer and his institutions as a means, not an ends. To speak of "beneficiaries"

highlights a central misconception implicit in the policy: it is the **urban Indian** who is the **beneficiary** of policies and programmes that attempt to achieve "cost efficiency, foreign exchange earnings and increased capital formation."

The nation's agricultural production depends on productivity. The potential for expansion of area is limited. Increased productivity rests on the following factors which, together, should serve as the foundation for our National Agricultural Policy:

1. Land
2. Water
3. Genetic material
4. Farmer confidence

Land

The draft policy recognizes that much of our land is degraded. This inhibits effective use of water, seed and other inputs. The policy, however, speaks only of "priority".

Our first and foremost need is a *National Land Use Policy*, one that recognizes that we hold this resource in trust for future generations. Therefore, such a policy must be based on our need to feed, clothe and house our *future* citizens. This would emphasise the importance of restoring and maintaining the quality of our agricultural, forest and pasture land. It is critically important, therefore, that a National Land Use Policy recognise the importance of *local control* and that it provide for clear and significant incentives and penalties that can be determined and enforced by panchayats.

Recognizing the serious degradation of our forest, farm and pasture land, a focus of our National Agricultural Policy must be priority allocation of *significant funding for research into practical methods of improving soil structure and fertility* over both the long-term and short-term. In regions where degradation has reached critical proportions -- and there are many -- "Soil Bank" programmes should be evolved to finance resting of land through cultivation of restorative crops and vegetative cover.

While it is critical that we begin a national programme of restoration of agricultural lands, it is equally critical that the forest cover that protects our watersheds and is the foundation of our ecology be rebuilt. Experience during the last decade demonstrates that this cannot be achieved through Government programmes; more often than not, Government is the problem, not the solution. The National Agricultural Policy should commit Government to a time-bound programme in which title to all government-owned and controlled wastelands is transferred to tree growers' cooperatives, panchayats and others whose livelihoods depend on our forest wealth. A parallel set of policies to provide tax and other incentives to timber and wood substitutes should be implemented without further delay.

Water

It is widely recognized that not a single major irrigation project in the country approaches its potential; on the contrary, widespread violation of authorized cropping patterns, excessive use of water and failure to create drainage, have all reduced the available area and damaged lakhs of hectares of land. Corruption is endemic in the agencies responsible for allocation of water. Similar ills have befallen Government-managed tanks and tube wells. Study after study has demonstrated that privately-owned and managed irrigation operates with a high degree of economy and efficiency. Studies also confirm that this efficiency extends to far higher levels of farmer productivity.

The National Agricultural Policy should therefore place priority on *privatization of water*. A variety of approaches exist which could serve to transfer the ownership and management of the irrigation infrastructure to our farmers. Those who use the water should own the systems, whether as cooperatives or companies. Farmer users can and would finance long-term acquisition of this infrastructure. Government should establish a NABARD window to: a) finance the capital requirements for creating drainage on a war footing; and b) to finance irrigation system working capital requirements on a commercial basis.

Seed

The National Seeds Corporation and its state clones produce a very limited portion of our national seed requirement, and that too at a considerable cost for seed of dubious quality. The lengthy experiment with these corporations has run sufficiently long to have satisfied everyone that alternatives must be sought.

As with water, the National Agricultural Policy for seed production should be to initiate privatization without delay. Both the NSC and the State Farms Corporation of India could well be restructured as privately-held firms with equity participation from one or more Indian cooperatives (e.g. IFFCO and the state oilseed growers' federations) and one or more offshore seed companies, particularly those with significant achievements and potential in the application of biotechnology to plant genetics. Alternatively, such a new cooperative could be allowed to acquire advanced seed development firms abroad.

Farmer Confidence

Farmer confidence is the single major element in productivity: farmers with confidence in a remunerative, stable price are willing to assume the risk inherent in investment of the money and effort necessary to increased productivity. Illustrative of the problems of low confidence was the performance of the oilseed sector until the mid-1980s. A climate of farmer confidence was only created with the expansion of the oilseed growers' cooperative network and introduction of the Market Intervention Operation in oilseeds and oil. Thereafter the rapid expansion of production -- reflecting substantial increases in productivity -- is the only agricultural miracle of the post Green Revolution period.

Therefore, with respect to farmer confidence, the National Agricultural Policy should commit Government to: policy support of member-owned and controlled, professionally-managed cooperative

structures; selective reduction and elimination of levies, cesses and taxes for cooperatives; continued support for the Market Intervention Operation in Oilseeds and Oil and exploration of similar market intervention approaches with respect to other major commodities.

Supporting Framework

Development of the nation's agriculture requires strengthening our capacities in research, rural savings and credit, etc. In the past, Government has attempted to either implement programmes, or to micro-manage implementation by others. Both approaches have failed. It is now essential is that a positive environment be created in which Government's commitment to the free market is balanced by allowing our farmers full access to -- and control of -- the institutions and resources they need in order to compete.

Policy on Multinationals

The proposed National Agricultural Policy opens the door to multinational investment in our agribusiness. This is clearly a risk. There are few areas of agriculture where the technology of multinationals is in any way superior to what we can achieve ourselves. In fact, when multinationals said it was impossible to make baby food, condensed milk and cheese "under Indian conditions", it was our nation's cooperatives that met that challenge. By contrast, the highly touted technology of some early MNC entrants in the field of agricultural production has produced little of benefit to our farmers or the nation. There is no clear reason why Government should permit, much less encourage, low technology investment in our agro-industrial sector. There is also the risk that such ventures will enrich foreign shareholders at the expense of our farmers.

Plant Protection Chemicals

The use of chemical pesticides and fungicides has grown alarmingly during the last decade. As the advanced agricultural nations seek to reduce such chemical dependency, severely restricting or banning the use

of pesticides, herbicides and fungicides, their agricultural chemical firms export the very same formulations that are no longer acceptable at home. Although it may require a longer time, we must firmly commit our nation to a course that restricts the uninhibited use of toxic chemicals in agriculture and which focuses research on natural, biologically and ecologically sound plant protection.

Research

The Indian Council of Agricultural Research and universities of agricultural sciences have some notable and important successes to their credits. Many would argue, however, that the successes are disproportionately small in relation both to the need and the investment. What is generally agreed is that our research is often unrelated to the production constraints of farmers and the commercial requirements of the market.

With respect to research, the National Agricultural Policy should commit Government to a significant reorientation by adopting, in total, the recommendations of the G.V.K. Rao Committee. One immediate priority would be to re-focus our research on the needs of farmers and consumers through the mechanism of empowered Management Committees in each important area of research. These Management Committees -- which with respect to budget, planning and operations would function as a Board of Directors -- would include a genuine producer representative; one member each from a cooperative and privately-held firm engaged in the field; a distinguished scientist or technologist; and a chairperson recognized for eminence in that field of agriculture, forestry, or animal husbandry production. The Ministry of Agriculture, Department of Agricultural Research could then reorient its role to centralized administrative and personnel concerns, allowing scientists to return from Krishi Bhavan and other offices to their laboratories.

Rural Savings and Credit

The Agricultural Policy Resolution does not acknowledge the damage done to the rural savings and credit structure consequent to the loan waiver programmes. Public and member funds were placed at risk by programmes that succeeded in reinforcing, not resolving, long standing problems of loan delinquency and default.

Consistent with the avowed intention of Government to remove state control and permit democratization of cooperatives, the National Agricultural Policy should specifically commit Government to:

* restoration of control of the agricultural credit structure to its owners at the primary, district and state levels;

* restriction of NABARD's intervention to establishing its own lending rate to the State Cooperative Banks and lending based on the credit-worthiness of those institutions;

* withdrawal of all deputed Indian Administrative Service and state deputationists from the management and staff of the cooperative financial structure; and

* enactment of legislation prohibiting both the Central and state governments from waiver of loans.

Cooperatives

A number of recent Government reviews have acknowledged that where cooperatives have managed to secure a degree of autonomy and to operate in a democratic manner, they have achievements to their credit that are the equal of the best investor-oriented firms. Where they have been treated as vehicles for Government programmes and subjected to the direction of Government, they have almost invariably failed. While the draft policy takes a small step toward creating a positive environment for cooperatives, it qualifies any such concessions to owner control by speaking of "societies which are engaged in economically viable ventures, are professionally managed and democratically run" when, in fact, the

majority of societies do not meet these conditions because of direct and indirect state interference. The National Agricultural Policy should not offer half-steps for, in the end, these will be no steps at all. Rather, it should commit Government to amendment of the Multi-State Cooperative Act, amendment of the Companies Act to enable operation of Cooperative Companies, and to a package of significant incentives for states that adopt progressive cooperative legislation. Such legislation should:

Enable rather than prescribe;
Restrict the Registrar to registration;
Bar government contribution to cooperative equity;
End government participation on the boards of cooperatives, unions and federations;
Bar holding of elected or official positions by employees of the Central or state governments;
Replace requirements of Government or departmental audit of cooperatives with the requirement that audits be performed by a qualified chartered accountant or approved firm;
Dissolve common cadre systems; and
Finance phased restructuring of existing Cooperative Departments to permit their reduction to a manageable size, appropriate to their curtailed functions.

Taxation of cooperatives remains an area that sharply limits growth and places cooperatives at a disadvantage when competing with big business and multinationals.

As the proposed National Agricultural Policy notes, capital formation is essential to accelerated and sustained economic advance. Present tax policies, however, encourage successful cooperatives to distribute gross profits in the form of price differentials, rather than partially, or wholly, in the form of member equity. The reason for this practice is that dividends can only be declared after computation of net profit. This leads to the practice of pre-tax distribution of earnings, undermining both capital formation and sustainable growth. Legislation to exempt agricultural

cooperatives from income tax, or to limit tax to a nominal amount, would produce a substantial increase in capital formation, eliminating the need for continued government grants and contributions to cooperative capital.

A second problem with respect to taxation of cooperatives is that, as is well known, many of their privately-held competitors manage to avoid and evade a substantial portion of their tax burden, placing cooperatives at a serious disadvantage. This is particularly true with regard to cesses and taxes to support *mandis* and other infrastructure. It is ironic, to say the least, that cooperative members whose own institutions have created their own marketing infrastructure and therefore do not need the *mandis*, are the ones who actually pay for the infrastructure that is exploited by the very private firms and traders who avoid those cesses and taxes.

For these reasons, it is recommended that exemption of farmer owned and controlled cooperatives from taxation be included in the National Agricultural Policy.

The National Agricultural Policy should also give preference to cooperatives in the full range of agro-industrial enterprise. If Government is serious about capital formation, let that capital formation take place through cooperative surplus, higher prices and bonuses to cooperative members -- not through repatriation of dividend earnings to the headquarters of multinationals.

Labour Legislation

In the years since Independence, the exploitation of labour has been addressed through legislation and regulation that, over time, has brought benefit to organized labour. Today the owners of our farmer cooperatives provide a host of benefits to their employees that they cannot dream of enjoying themselves. This has ended the exploitation of labour, at the cost of exploiting our farmers. In 1982, Parliament made a small attempt at redressing this inequity by exempting cooperatives with fewer than 10 employees from the provisions of the Industrial Disputes

Act. Even today the Ministry of Labour has failed to notify that amendment. The National Policy on Agriculture should, therefore, commit Government to implementation of that amendment and to exploration of ways in which farmer-owned cooperatives can respond to the needs of their owners in at least equal measure.

Rural Communications

Change takes place through communication. Rural India is increasingly at risk of losing its contact with the rest of the nation. Print media, television and even radio are captive to the interests of our urban population. The intrusion of satellite-beamed programming from alien cultures is likely to only accelerate the present distortions.

Print, television and radio can be highly effective tools for education and can contribute to the goals of national integration. However, their potential effectiveness is far greater to the extent that these media respond to the specific interests and needs of relatively localized rural communities. The very successful *Pij* experiment in rural television is illustrative of how effective such media can be. Therefore, it is recommended that the National Agricultural Policy endorse a liberalized communications regime that permits and provides incentives for establishment of rurally-oriented newspapers, television and radio stations and networks, owned and controlled by the rural populations they serve.

Power and Telecommunications

The national cost of rural power is enormous. The Tata Energy Research Institute has estimated an economic subsidy for rural power amounting to some Rs. 1,423.7 crores and an even greater financial subsidy of Rs. 1,691.2 crores. It is well known that rural power is subject to widespread theft and that corruption has become endemic in our State Electricity Boards. While the power sector has been liberalized, Government has focused its attention on urban and industrial power. The National Agricultural Policy should include specific means and methods to encourage rural electric cooperative power generation, transmission and

distribution. If rural power is owned and controlled by its users, the rate structures, efficiency and integrity of the systems can only improve, sharply reducing what have become intolerable economic and financial costs to the nation.

A telephone connection with the rest of the country is a prerequisite for rural development. It ensures access to market information, to inputs, to transport, to emergency health care and, in fact, to the entire modern infrastructure that urban India takes for granted. Telephone systems can run parallel to power. Therefore, it is recommended that in including rural electric cooperative power, the National Agricultural Policy specifically commit itself to legislation that would permit rural electric cooperatives to operate telephone systems.

Education

No nation can grow in a healthy balanced way unless its people have access to education. Our state-dominated education system has often failed our rural areas. The time has come when our rural communities should be given the freedom to finance and control their own schools and to make the choices necessary to the futures of their own children. The National Agricultural Policy should recognise that our advancement in agriculture is inextricably linked to the quality of rural education and that rural schools must be placed in the hands of those whose communities they serve.

Subsidies

A National Agricultural Policy in which subsidies play a role is likely to be untenable and equally likely to receive a lukewarm response. Our farmers know that subsidies benefit a privileged few, not the vast majority of our producers. What benefit does a 6 per cent subsidy on agricultural credit provide to the farmer who must travel time and again and pay a host of unofficial charges in order to get that loan? What benefit does a fertilizer subsidy provide to the farmer who can only buy the fertilizer after his crop has been sown? What benefit does a subsidy on power provide if

the supply breaks down when he must run his pump set to survive? What benefit does subsidized water provide if he can get water only by bribing the irrigation authority staff? What use is the subsidy on a cow if it is over-priced and selected by bankers and officials whose only interest is how much they will make? Our farmers are no longer naive; they know what a subsidy is and who benefits from it. The draft policy correctly proposes a shift from subsidies to investment. Very few real producers will object, provided a National Agricultural Policy does represent a better deal for our farmers.

Multiplication, duplication and confusion

Thirty-five years ago when I first began working with Government, there was a single Ministry of Food and Agriculture with a single Secretary and perhaps three or four Joint Secretaries. While they did not always agree to what I proposed, one could be assured that decisions would be taken in a reasonable period of time, fairly and honestly.

Today it seems that almost every issue on which we deal with Government involves a host of Ministries and Departments. Instead of a single Ministry of Food and Agriculture we now have a Food Processing Ministry, a Department of Dairy Development and Animal Husbandry, various boards, committees, etc. While we can understand that the Ministry of Finance has necessarily to be involved when matters of significant investment are involved, the need for -- much less the involvement of -- a Ministry of Food Processing in matters that deal with Agriculture is questionable. Any cooperative dairy must compensate for the difference between flush and lean season production by producing milk powder and other dairy products. Today, that cooperative must deal with the Ministry of Food Processing -- which seems to have its own ideology and biases -- when it comes to products, and with the Ministry of Agriculture when it comes to fluid milk. Then, to further the confusion, Government added to the Ministry of Agriculture a wholly unnecessary Department of Dairy Development and Animal Husbandry. At a time when we are told that resources are scarce, it would seem to only make sense

to consolidate responsibility for milk, and products made from milk, in the Ministry of Agriculture.

We also find it objectionable that under Government's Rules of Business, vegetable oil is handled by the Department of Civil Supplies. This suggests that the main purpose of oilseed and vegetable oil production is for public distribution. The fact of the matter is that, from a nutritional standpoint, vegetable oil is not an essential commodity, although it is treated as such by Government. Milk, which is far more necessary nutritionally, is not considered an essential commodity by Government.

The problems arising from such confusion can easily be seen by the fact that by far the greatest proportion of PDS vegetable oil has been sold in the states of Gujarat, Maharashtra, Andhra Pradesh and Tamil Nadu -- all major oilseed producing states. Uttar Pradesh and Bihar, with their large populations below the poverty line and scant production of oilseeds, received 1 percent and 2 percent of PDS oil supplies respectively. It does not take much imagination to recognise that PDS oil was being diverted and used for adulteration, and to see that it was used by the oil trade to depress oilseed prices during harvest seasons.

When Government decided that we could no longer afford the massive oil imports that resulted from such confusion and working at cross purposes, it took a Technology Mission -- housed in the Ministry of Agriculture -- to bring a modicum of coherence and rationality to our policies and programmes. What the Technology Mission did was, in fact, to act as a single Ministry of Agriculture would have had it retained responsibility for oilseed and vegetable oil.

When we recognise that agriculture is a state subject, it becomes all the more difficult to justify the vast proliferation of Government involvement in the sector, and the consequent duplication. The end result is that decisions that ought to be taken in a day are dragged on for months and, finally, ignored by those who were party to them. Therefore, the National Agricultural Policy should commit Government to restore a

lean, efficient and unified responsibility for agriculture to the Ministry of Agriculture.

Extraneous infrastructure

Over our more than four decades of Independence, we have given birth to and nurtured a burgeoning host of institutions. Many of these simply ensure duplication of functions; witness the "Boards" that have been created to oversee virtually every area of agricultural endeavour. Government designs and tests agricultural implements; breeds chickens and then tests their production; analyses feed; produces forage and fodder seeds; runs a dairy; trains people in fertilizer use; breeds cattle. All of this is simply unnecessary. In the case of such endeavours as agricultural machinery, random sample tests, support for the fertilizer and feed industries, etc., there is no reason why these industries themselves cannot and should not assume the direct responsibility. **There is equally no reason for Government to carry out activities like running dairies, producing seed and breeding cattle, all of which can be done far better by institutions and individuals.** Therefore, the National Agricultural Policy should commit Government to withdrawal from all such activities and enterprises that could be more appropriately and better managed by others. To do otherwise is to say to our farmers that the Mission of the Ministry of Agriculture is to serve and protect the interests of its employees, not those of our farmers.

Conclusion

In closing, I would like to share with you the one central lesson that I have learned over the more than forty years working for our farmers. That lesson is quite simple: when our farmers gain control over the resources they create and which they need, there is nothing they cannot achieve. I can never forget that today's Gujarat Cooperative Milk Marketing Federation with sales of more than Rs. 1,000 crores began with a handful of farmers and a dream.

What we as a nation have done over the last 46 years is to create an illusion. That illusion is that all the resources necessary to development are in the hands of Government and that if anyone wants a share of those resources they must entreat Government to part with a small portion. We have forgotten that all our resources -- including those that Government metes out -- are created by our people. And, by so forgetting, we have crippled our people, turning a nation of strong, self-reliant men and women into supplicants and dependents.

The one form of institution that allows our farmers to build a better world for themselves is the cooperative. Yet even our cooperatives have been crippled by dependency on Government -- whether in the form of grants, equity or soft loans. Today what we call "cooperatives" are not cooperatives at all. Cooperatives are built on the basis of mutual self-help -- not Government grants. If we can find the courage to provide our cooperatives with a law that allows them to regain their self-reliance and autonomy, I can assure you that, in time, our rural people will build a new, just and wise India through cooperation.

Thank you.

30th Annual Scientific Convention of
the
Philippine Society of Animal Science

Village-based Dairy Development: The Anand Experience

Manila
November 19, 1993

Ladies and gentlemen,

When I received this invitation to visit the Philippines and to speak to you today, I must confess that I was truly delighted. This is not my first visit. In 1963 I was honoured to receive a Ramon Magsaysay Award for Community Leadership. A few years later, in 1977, I had participated in a Ramon Magsaysay Award Foundation Workshop in Los Banos. Then, in 1982 the European Economic Community requested me to lead a team asked to assess your dairy industry and its potential for development on cooperative lines. All three visits were occasions that I remember fondly, particularly because of the generous hospitality of the people of the Philippines.

I might say that in presenting me with the Ramon Magsaysay Community Leadership Award, the Philippines recognized the achievements of the Kaira District Cooperative Milk Producers' Union long before many of my own countrymen did. I have always felt grateful to you for that, a gratitude enhanced by the fact that amongst the colonized nations of the world, only the Philippines achieved its Independence before my own country.

Like all others who have received a Ramon Magsaysay Award, I was all the more honoured by the association of the award with the name of your late President, Ramon Magsaysay. In today's world we have become all too accustomed to politicians who are followers, not leaders. To men, and to women, who seek popularity through measures that often drain their countries of resources. And to those who -- to put it mildly -- experience considerable difficulty in distinguishing what belongs to the national exchequer, and what belongs to them. It is therefore refreshing

to reflect on a man like Ramon Magsaysay who brought courage, integrity and vision to the trust placed in him by the people of the Philippines. It is unfortunate that he died in a tragic plane crash long before he had fully achieved his great potential.

When I received your invitation, I took a moment to look at the talk I had given at the Ramon Magsaysay Award Foundation Workshop in 1977. It occurs to me that some of what I said then remains relevant to us today. So I hope, therefore, that you will forgive me if I hark back to those comments made some 16 years ago.

When I was here in 1977, we were in the first phase of Operation Flood. For those of you who may be unfamiliar with this project, it was an attempt to replicate a very successful dairy cooperative union in Kaira District of Gujarat State. In a nutshell, the success of Kaira District was that it linked the power of our farmers in a partnership with professional management. Beginning with as little as 250 litres of milk a day in 1946, by the 1960s the Kaira Cooperative was such a success that our then Prime Minister, Shri Lal Bahadur Shastri, visited Anand to learn the reasons why we had succeeded while so many other dairy development programmes had failed. He spent a night in one of Kaira District's villages and spoke at length to farmers there. In the end he expressed his failure to understand the reasons for our success. The soil of Kaira District, he said, was no doubt good soil -- but it was not as good as the soil of the Indo-Gangetic Plain. The buffalo of Kaira District, he commented, were not nearly so good as those of Punjab and Uttar Pradesh in our North. And, while the farmers of Kaira District were good, decent and hardworking — like farmers are everywhere — they were not, he felt, quite as diligent and hardworking as those from his own area of the country. "So what, Kurien," he asked, "what is the reason for your success?"

Now our Prime Minister was a very wise man and I believe he recognized the reasons for the Kaira Union's success. Rather than a large, bureaucratic, government-controlled structure, our cooperative was owned by the farmers it served. Their elected board hired the best professionals they could find to work for them. And once they had hired

them, they allowed them to work with freedom, only holding them accountable for the results. Because the professionals worked for farmers — not for government — they performed with great industry and commitment which produced exceptional results.

In 1977 at Los Banos, I spoke of this as "Tightening the links between authority and responsibility." Today there is a great deal of talk around the world about "empowerment" and "people's participation." With some lack of modesty, I think I can say that we discovered the essence of these many years ago. What is "empowerment" after all, but making those with authority and responsibility accountable to those who create and produce resources. Empowerment exists when the members of a cooperative know that they elect their managing committee and when the chairmen of those managing committees elect the Union's board. Empowerment exists when the professionals know that they are hired by, and accountable to that board. Anything less is, if you'll pardon my saying so, another example of the high-flying development jargon that often obscures the essence of real change.

In 1977 in Los Banos I spoke with some pride about the progress we had made in replicating the Kaira Cooperative. At that time, 14 Anand Pattern Cooperative Unions had been started; today there are 170. We were proud of the fact that at the end of 1976 there were 4,530 village milk cooperatives; today there are more than 65,000 with several thousand more that deal with oilseeds, fruits and vegetables, and even salt. In 1977 we had raised the throughput of our four metro dairies to almost 1.5 million litres per day. It is now more than 3.5 million litres. More important, however, is the fact that our cooperative dairies now market an average of more than 5 million litres of milk in the other cities and towns of India. Most important of all is the fact that some 8 million farm families share annual payments for their milk amounting to something like US$ 700 million. Most of these families are poor; a substantial number are even landless. So you can imagine what the rupee equivalent of almost $90 per annum means to them.

Let me make clear, however, that as substantial as these achievements have been, we neither see them as an end in themselves, nor do we claim that there are no problems that remain to be overcome.

Many have often made the mistake of believing that development is measured in the numbers of hectares of this, or the number of metric tons of that. True development is not the development of land, or of cows, it is the development of men and women.

Long ago we felt it was important that the village men -- and especially the women -- who were members of our cooperatives should visit Anand to see the cooperative dairy they owned, and to visit the nearby cattle feed plant which they also owned. For these ladies the trip to Anand was like a picnic in some ways. They arrived in a bus and an officer of the cooperative would show them the vast quantities of milk being processed -- milk that they had poured in their own village that morning, milk that came from high caste and low caste, Hindu and Muslim, rich and poor. They knew that all of them had stood in the queue to pour that milk and that if a woman arrived before a man, she stood in front of that man. And if a Harijan, as India's untouchables are called, arrived before a high caste Hindu, she too stood in front. And they saw all of their milk poured together, submerging with it all the distinctions of caste, religion and politics that might otherwise separate them.

After the women had seen the dairy, they were taken to an artificial insemination centre where they watched the procedures involved and even looked at semen under a microscope. Were those women simply learning about breeding of cattle, or were they also learning about reproduction and about the fact that it could be controlled?

From the artificial insemination centre they visited the cattle feed plant. There a nutritionist spoke to them about the importance of a proper balance of protein and other nutrients, of the necessity of increasing protein intake of cattle during certain seasons and, most especially, when the cow was pregnant. Was this simply a lesson in animal nutrition, or did

it not impress on these women the importance of their own nutrition, the nutrition of their families and most especially, that of their daughters.

Think for a moment about the fragile nature of democracy, particularly a democracy that operates far from the village in a state or national capital, a democracy that is present only every four or five years when elections are held. Such a democracy can lack the strong foundation necessary to a just, honest and wise government.

Every year, the members of a dairy cooperative meet together and review the affairs of their society and then elect the men and women who will serve as their managing committee. These managing committee members are entrusted with the responsibility of managing the resources that are created by those who elect them. There is a clear, strong and binding link of accountability. Are these not the lessons in democracy on which the greater nation can rest secure?

These then are the real benefits of a programme like Operation Flood, benefits that extend well beyond the litres of milk produced, procured, processed and sold. Benefits that greatly exceed the improvements in cattle and their productivity. Benefits that mean far more than the dairies and cattle feed factories. These are the real contributions to development, to the development of man.

In 1977 at Los Banos I also spoke of problems that we faced. I regret that we continue to face many of these same problems.

The first problem is one that seems common to many countries that have endured colonial rule: the problem of cooperative laws that stifle and shackle cooperatives. In India, as in many parts of Africa and Asia, the British saw cooperatives as an instrument to help them rule. But they certainly did not trust our people to run these cooperatives with honesty and integrity. So they created an office known as the Registrar of Cooperatives, a position that was reserved for an Englishman. This Registrar was given a range of draconian powers to enable him to be a "friend, philosopher and guide" to cooperatives. He could dismiss an

elected board, change the bye-laws, merge, divide, audit, conduct elections and, if he chose, dissolve any cooperative.

When India gained Independence, the sensible and right thing to have done would have been to throw out this archaic colonial law and to replace it with one that embodied the principles and values of cooperation and which clearly placed responsibility with the members themselves. Regrettably our leaders showed no such wisdom. Rather, our own civil servants discovered that being "god" was not such a bad thing; and our ministers discovered that being the "boss of god" was even better. So rather than discarding the colonial law, our states have enacted a succession of new laws that further empower the Registrar at the expense of the cooperatives and their members. I am told that cooperative laws in many countries have suffered a similar fate but that in the Philippines you have, at least, a liberal law for those cooperatives that do not depend on government funds.

For a number of years the oppressive nature of our cooperative laws was an obstacle to the health of our cooperatives, but it did not threaten their lives. Today that situation has changed and it is to this new threat that I would like to turn.

But first, if I may, I would like to recall some things I said in Los Banos in 1977. In that talk I spoke of "the development assistance technocracy":

> The West largely controlled technological development until the 1940s. The multilateral and bilateral agencies, which are responsible for developmental assistance, were mostly set up after World War II and they inherited Western pre-war attitudes of imperialism and paternalism. They developed the tradition of "he who pays the piper calls the tune." Their technocracies distrusted Operation Flood because it was planned and designed by Indians for Indians to implement -- and there were no means of covertly controlling it from Western capital cities.

Perhaps if I were to alter the text of what I said then, it would only be to substitute "North" for "West". One can only wonder, in fact, if in his *Glasnost*, Gorbachev was motivated by the vision of a world of diminishing resources and the need to align his nation with the rest of the North against the growing and increasingly discontented South. Today, what seems to be emerging is a New Europe, stretching from Vancouver to Vladivostock -- with little outposts in Australia and New Zealand.

Today, with the erstwhile socialist bloc virtually dissolved, there is no longer the tension between East and West that ensured that those nations less well endowed could still make choices relevant to their own destinies. While his words were not "he who pays the piper calls the tune", when the then U.S. President, George Bush, was asked for the meaning of the "New World Order", he hesitated a moment and then said, "It means that they do what we say." Regrettably it seems that many of the world's governments have reconciled themselves to this truly awful vision of the world's future.

You might ask, "What has all this to do with dairy cooperatives?" Let me try to explain.

In India, beginning with the Kaira District Union, we have helped to build a cooperative dairy industry that is owned by millions of poor men and women. These cooperatives have received little help from our Government. And while we have used milk powder and butter oil donated by the European Community, the value of these commodities is dwarfed by the investment by our own farmers and by that of Indian consumers.

What our cooperatives have enjoyed is the right to procure milk in the milksheds in which they were located. This was not simply a boon provided by a beneficent government; rather it recognized the enormous investment the cooperatives made in providing a whole range of inputs, animal husbandry and veterinary services that would ordinarily have been the responsibility of government and which, in no case, would have been

delivered by an investor-owned firm. The right to procure was also not a monopoly: the cooperatives have always had to compete with traditional milk venders, unscrupulous traders who often lend money to poor farmers, charging usurious interest in the form of milk.

Two years ago, inspired by the "new economics" of the International Monetary Fund and World Bank -- for it is they who now seem to pay the piper -- my Government became born-again capitalists. Where, in the past, we had spoken of social justice, of equity, of an economy dedicated to the proposition that our nation's strength depended on the strength of our weakest sections, our leaders now began to parrot the rhetoric of structural readjustment: globalization, liberalization and privatization. This rhetoric, and the policies that followed, have been welcomed by our educated elite. Now they can choose between 'Coke' and 'Pepsi' when they go out to buy a 'Big Mac'; they can wear Western brand name jeans and sweaters; in fact, they can now consume virtually anything that is available elsewhere in the world.

When my Government opened the doors to foreign investment -- or rather when they took the hinges off the doors -- what did we see? Was there a major increase in investment in our industrial infrastructure, in power, in chemicals, in oil exploration and steel production? Regrettably, there has been comparatively very little. Rather, what we have seen is a beeline being made to India by multinationals involved in consumer goods and food processing. Instead of life-saving medicines we will get coloured carbonated water; instead of state-of-the art environmentally-friendly pesticides we will get hamburgers; instead of farm equipment we will get athletic shoes and sports clothes.

Many of you know that India is a large country. We have more than 860 million citizens, more than 70 percent of whom live and work in our rural areas. What does this "new economic order" mean for them? What benefit is "privatization" when their cooperative continues to groan under the oppressive weight of government regulation and interference? What possible benefit does our farmer get from "globalization" if it means the dumping of subsidized surplus commodities that destroy his market? How

will our rural children benefit when, instead of building our rural school systems, our Government invests its meagre resources in tax holidays and export free zones for foreign capitalists? What does the future hold for rural India when our limited electric power, water and -- most important -- our talented young men and women, are channeled into multinational enterprises?

What I have described is what you might call the "macro" picture. There is another dimension that causes me even greater concern. Let me illustrate this with two brief "case studies".

Some years ago the National Dairy Development Board was approached by my Government. In a nutshell they asked us to try to do with vegetable oil what we had done with dairying. I agreed to give it a try, but I pointed out that we had been able to achieve results in dairying because all our policies were geared toward increasing domestic markets so that we could sustain increases in domestic production. I explained that when we imported vegetable oil and sold it at prices 35 percent or more below the price of domestic oil, we were destroying the incentive for our own farmers. When we allowed imports to be released at harvest time, we were doubling the damage. There were any number of other related problems that had to be corrected as well. And, while it did take a number of years, finally our decision makers did adopt an integrated policy on oilseeds and edible oil in 1987.

The policy was quite simple. It restricted imports. It authorized the National Dairy Development Board to buy and sell oil and oilseeds to help ensure that farmers continued to receive an incentive price. It brought some discipline to the way edible oil was marketed through our Public Distribution System. It brought some focus to investment in research and support services related to oilseeds. And it created some modest incentives for the use of minor oils. Broadly speaking, it was not terribly different than the food security policies found in North America, Europe and Japan.

What was the result? Our farmers responded with significant increased investment in oilseeds. Production of oilseeds and oils soared. Today, India is virtually self-sufficient in oil when, only a few years ago, the World Bank was predicting that by 1993 India would be importing some 3 million tons of vegetable oil!

Did this revolution in oilseeds production lead to plaudits at home and abroad? Quite the contrary. In its last Agriculture Sector Report on India, the World Bank -- while acknowledging that oilseeds were the only sub-sector in which India's agricultural growth had exceeded the trend -- called for a dismantling of the policies that had brought about that very result! They spoke disdainfully of "subsidies" and the distortions they produce. They argued that India lacked a "comparative advantage" in oilseeds and that we should simply import the oil we needed.

Today, our soybeans are sold for virtually the same amount per ton as those grown in Illinois. And a ton of Illinois soybeans benefits from subsidies that are considerably higher than ours! Isn't it time that the United States recognized that it lacks a "comparative advantage" in soybeans and starts importing oilseeds from India? Certainly they should dismantle their agricultural subsidies and programmes that produce distortions.

I would ask you to reflect for a moment on why our success caused such a negative reaction.

Let me go on to a second "case study." I had mentioned that for some years our dairy cooperatives had enjoyed the right to procure milk in the areas they served. Any dairy that wished to establish itself was required to obtain a license. And Government did not issue licenses to dairies that proposed to operate in competition with our cooperatives. Such licenses were not simply a restriction. As I've mentioned, they respected the cooperatives' investment in inputs and services. They also recognized that milk is not a commodity that increases rapidly. If a milkshed has 100,000 litres of disposable surplus, and two dairy plants with 100,000 litres capacity, they will simply be cutting each other's

throats. When that happens, unethical practices are usually adopted as a means to survive. Those ultimately hurt both the producers and the consumers.

Nonetheless, two years ago, flushed with the excitement of "liberalization", our Government decided that such licensing was no longer desirable -- it inhibited competition. Never mind that such competition was undesirable. With great fanfare, Government announced the "delicensing" of the dairy industry. That announcement was received with great excitement by Nestlés, by Glaxo, by Cadbury, and even General Foods in the United States announced that conditions were now auspicious for it to begin processing milk in India. Our Finance Ministry Mandarins rubbed their hands with glee and the dour bankers of the international financial institutions allowed themselves a smile and a quiet "Well done India."

What they hadn't counted on was the 8 million farmers who belong to our dairy cooperatives. It didn't take them long to start rushing to their state capitals and to Delhi to tell anyone and everyone who would listen that "delicensing" not only made no sense, it was a policy they opposed -- an opposition that extended to any politicians who supported it.

Government then reconsidered the wisdom of their step and, with the finesse that only seasoned bureaucrats can muster, they hit upon a solution -- a solution we had proposed for more than two decades: a Milk and Milk Products Order that would require dairy factories to meet certain standards of sanitation and hygiene, and which would impose a modicum of discipline in the exploitation of milksheds.

I think if you look around the world, you will find that most advanced dairying nations have similar regulations. No Government worth its salt wants to expose consumers to unhygienic milk. Equally so, no Government wants to damage its export markets by allowing shipment of poor quality commodities. Most important, no Government wishes its agriculture to engage in "perfect competition" for, as we all know, "perfect

competition" results in no one making any money, a condition that inevitably leads to bankruptcy!

Once Government had promulgated the Milk and Milk Products Order you would have thought they had announced an intention to nationalize the dairy industry. The solons from the international financial institutions became quite gloomy -- a retrograde step, they said, one that will do great damage to investor confidence in India. This line was repeated by the multinationals. How, they moaned, could they be expected to operate under such onerous regulations -- never mind that what had been proposed was far less restrictive than the regulations governing the dairy industries in their own countries.

And so, today, we have a battle underway with an uncertain outcome. Our farmers against the money and power of the multinationals.

I had asked you to reflect on why our success in oil caused such negative reactions. Reflect too, why did a reasonable regulation of the dairy industry result in such an outcry?

The answer on oil is quite simple:

If India is producing its own oil, someone is no longer selling us the 2 to 3 million tons of oil that we would otherwise have bought.

The answer on dairying is a bit more complex:

You are probably all aware that Mr. Dunkel and his successor have been trying their best to get all the nations of the world to sign an agreement. Now there is much in that agreement that I don't particularly like, but there is one part that we certainly applaud: the requirement that <u>all</u> signatories agree to remove the subsidies that support their agricultural production and exports.

Now if that agreement is signed without watering down that section -- and even better if my Government and others insist that the end of

subsidies extend to the processing industries as well -- then what happens to the international dairy industry?

Well, New Zealand will do quite all right. Some years ago they wisely committed themselves to ending subsidies and so, today, they are highly competitive without them. In this, they are almost alone amongst the major dairying nations. Virtually all the others subsidize their producers, and subsidize their exporters. Who is the lone companion of New Zealand? India. Our dairy products can compete today on the world market and we don't subsidize.

No doubt there are a few eyebrows going up in this audience. India, the country that once imported all its milk products, an exporter? India, the country where per capita consumption was barely 100 grams per day, an exporter?

The answer is an emphatic yes. This year we are producing an exportable surplus. And, if agricultural economists at the University of California, Davis are to be believed, by the turn of the century we will be a major player in the international dairy commodity market.

This explains, I believe, the interest everyone seems to have in our Milk and Milk Products Order. Certainly very few multinationals in the food processing business would want all those profits from export of dairy commodities to go to India's farmers! Far better that they fill the coffers at corporate headquarters in Geneva, or London, or New York.

There are those who argue that we live in a global economy and that there is no harm if a multinational controls a bit of it here and there. Frankly I do not agree. Multinationals are driven by the need for profit and power. Regrettably, their management's focus on quarterly results precludes the type of long-term investment that could conceivably be of benefit. Rather we see a pattern of corporate behaviour that is extractive, exploitative and, when the going gets a bit rough, the multinationals seem all too ready to close down operations and head for greener pastures.

We are all now witness to corporations shifting jobs from country to country, depending on the cost of labour. I, for one, am unwilling to see my nation's dairy farmers exploited to produce a few years' profits for foreign investors, and then have the rug pulled out from under them when someone discovers cheaper milk in Bangladesh or Lesotho.

Thus, from my perspective, the "New World Order" is not a very pleasant prospect. The world is increasingly dominated by the power and money of multinational corporations, and those corporations increasingly influence the policies and programmes of the major economic powers and the institutions they control.

There is a way out. We can simply say "no". We can say "no" when the price of international financing is our national self-respect. We can say "no" when our governments try to bend their policies to the interests of others. We can say "no" when those whose interests are profit attempt to exploit our producers. We can say "no" and I, for one, will say "no."

Think for a moment on what might have been. The North has enjoyed substantial surpluses in almost every area of agriculture. Those surpluses were deployed for some years to help us build India's dairy industry and to revive our oilseeds sector. They were generous gifts, both because of their value, but also because they helped to build a future competitor. But they were also gifts that served the interests of the donor, helping to productively employ commodities that would have cost more simply to store.

Today, we have restructured our dairy and oilseeds sectors; and we are doing the same in fruits and vegetables. But there are many other areas of our agriculture that could benefit from similar programmes -- and which could make productive use of surplus commodities from the North.

Over the years representatives from more than 80 countries have visited Anand and have requested our help in starting an "Operation Flood" in their own homes. While we are willing, we have not had the commodities needed to prime the pump.

Today, in the countries of North America and Europe, we see farmers being asked not to produce. Is there anything more crippling to an individual, and to a society, than to ask people not to do what they do well?

We also see in those same countries a pattern of agricultural programmes and policies that can best be described as STOP! GO! STOP! GO! How much more sensible it would be to view agricultural surplus not as a problem, but as an opportunity. To use those surpluses to help build the agricultural economies of the South. And, in so doing, to strengthen the capacity of the countries in the South to buy other commodities in the future. After all, if all the people in the world who go to bed hungry -- many of whom are farmers -- could afford to buy the food they need, there would certainly be no surpluses.

Let me then conclude with an appeal: there is no more important issue today than the attempt to marginalize the world's rural poor. We have taken a wrong turn, confusing the need to be free with a free market. It is time to restore our sense of perspective and to build a genuine vision of a New World Order, one in which North and South create a partnership to build a just and equitable future for all.

A better world doesn't depend on politicians. It doesn't depend on the media, or social workers. It depends on each of us. If even a handful of those present think about these issues, and are willing to seize the future, that future will be one in which all men and women can thrive.

Thank you.

National Consultation on Cooperative Leadership for Agriculture
Valedictory Address

Indian Institute of Management, Ahmedabad
November 30, 1993

Ladies and gentlemen,

While it is a pleasure to be with you today, I must confess that I was a bit bewildered when I was asked to give this address. As you know, the word "valedictory" connotes a benevolent and kind farewell. I found it somewhat startling that someone with my reputation for candor would be asked to perform such a function.

Nonetheless, when Professor Datta and his colleagues asked me to present this valedictory address, it was an invitation that I could not refuse. Leadership, the subject of your deliberations over the last three days, is a matter of the gravest concern to all who care about the future of our nation. I believe it would not be an exaggeration to say that India today faces a crisis of leadership, a crisis that threatens the very basis of our existence. Therefore I saw this as an opportunity to explore the nature of that crisis with you and, perhaps, to offer some suggestions as to how it may be resolved.

That there is a crisis of leadership today is a statement that can be made without fear of serious challenge.

In this recent round of elections, as in other elections over the last several years, our papers have carried story after story about the criminalization of our politics — tens, even hundreds of political candidates are individuals with criminal records.

That, however, is perhaps the simplest and most obvious commentary on our leadership today. Far more damning is the absence of leadership that is ultimately responsible for such criminal elements

becoming such a dominant part of our political life. Have we heard any major state or national leader of any party condemn the award of tickets to known criminals? That silence speaks resoundingly about the bankruptcy of our so-called leadership.

Again, when one reads about our elections, it now seems that the entire calculation of every party is based on community and caste. One can search the newspapers in vain for any statement about the ideology, the programmes and policies of a party or candidate; but one can read endless analyses of how a coalition of this, that and the other caste should enable one party or another to win. I would ask you, is it leadership to build a victory by dividing our people and by firing the emotions of one man against another? How short are our memories. It was that very politics of divide and rule that colonial rulers employed to subdue and defeat our nationhood.

Each post-election day report tells of booth capturing, of misrepresentation, of terrorizing those who might vote for another candidate, thus preventing them from the exercise of their franchise. If such base and ugly incidents are not condoned by our political leaders, why have they not spoken out loudly, firmly and often to condemn and to bring a stop to such violations of democracy.

Once an election is over, we read about how much each candidate is reported to have spent, money that exceeds by hundreds of times any legal limits and which comes, as is common knowledge, from those who seek favours from those elected. Yet our political leadership is silent — even actively opposes — such minor measures as the audit of political parties.

Last, when a new government is formed, we see an unseemly and unending game of musical chairs — chief ministers coming and going, their longevity linked to how many and how well they can reward those who tender their all-too-tentative support.

Is it any wonder that for many of our citizens, government — whether at the Centre or in the states — has become an irrelevancy? Should we, in fact, even concern ourselves with the malpractices and abuses of trust that I have described? Should we not simply ignore government and carry on as best we can?

While such a course is tempting, it carries great dangers for all of us. A wise statesman once said, "democracy is a terrible form of government; unfortunately there are none better." The reason for this is quite simple: democracy is the only form of government that regularly provides citizens with the opportunity to replace a leadership that they feel has failed them. But any nation that wishes to continue to enjoy democracy must protect and defend it — not only from enemies without, but from those within.

If we are to revitalize and restore the heart and soul of our democracy, then we must look first at why our leadership has failed. We must examine what are the qualities of true leadership. And we must find the ways and the means to instill these qualities in a new generation of leaders who will match the nobility of those who fought for, and won, our Independence.

The failure of our leadership has many causes. Perhaps the most basic one, however, is our failure to underpin democracy in Delhi and in our state capitals with a plurality of democratic structures throughout the breadth and depth of our national life.

A democracy that exists only in our national and state capitals is like a tree without deep roots, a tree that will fall victim to the first strong wind.

When our nation became free, it was the wisdom of our founding fathers that India would be strong if our villages became strong. They believed that the strength of the village should rest on three bases: a *panchayat*, a school and a cooperative. The *panchayat* provided a means for the democratic control of the village by the people themselves; the

schools would open the doors of learning necessary to build a better future; the cooperative would give our producers control over the resources they created. All provided the opportunity for the women and men of our villages to learn the lessons of democracy in the one place where those lessons would have an immediate and often powerful meaning: their own village. A *sarpanch* or *pradhan* who pursued self-interest would soon be exposed; a school master who failed to teach would bear the wrath of the parents; the cooperative chairman or secretary who did not produce benefits for the owners would be replaced. These would be the lessons in democracy at the grass roots, lessons which would, in time, build a firm foundation for our state and national democracy and which would throw up a new generation of leaders, schooled in the needs and sound values of our rural people.

Today we have *panchayats* — village *panchayats*, and *mandals* and *zilla parishads.* We have schools — if not in every village, a least in many of them. And we have cooperatives — more than three lakh primary agricultural cooperatives alone — enough cooperatives to allow us to call ours the largest cooperative movement in the world.

Yet our *panchayats*, our schools and our cooperatives have failed to create the firm foundation for democracy that our founding fathers envisioned. If we wish to build, or rebuild that foundation, we must understand why this has happened.

Many years ago, Pandit Jawaharlal Nehru made a speech that is often quoted by our cooperators. It was the speech in which he spoke of "convulsing India in cooperation". Less noted, but far more important, were other words he spoke that day, words that are most relevant in 1993:

> "I do not accept the statement often made that the Indian peasant is so frightfully conservative that you cannot make him come out of [his] rut. He is a very intelligent person — given the chance — only a little cautious, only wanting some proof, some evidence of what he is asked to do ... and not

> taking too much for granted. Now that makes Cooperation in India for the rural people absolutely essential."

He continued to say:

> "That is why we do not want, as in the past, the district official, or any other official, to throw his weight around too much. Again, he is the adviser and friend, but not the boss."

He then said:

> "... we wanted to draw the mind of the people out of the old conception of some big officials sitting on top and ordering about people to do things ..."

Nehru expressed his faith in our rural people and remarked:

> " ... theirs will be the decisions and if they make mistakes, they will suffer for them, and learn from them."

What Jawaharlal Nehru was telling us was that we must learn to trust our citizens. They would learn from their mistakes. Most important, there would be a clear, unambiguous link between the exercise of authority and responsibility on the one hand, and accountability to those who had given that authority and entrusted our leaders with responsibility — the people of India. If I may, I would like to illustrate the importance of those relationships from my own experience.

During the early years of our freedom, a great many development programmes were undertaken in the field of dairying. There were experiments with milk colonies and intensive cattle development programmes. Dairying departments were set up with Milk Commissioners and Additional Milk Commissioners and Joint Milk Commissioners, Deputy Milk Commissioners, and so on. And yet, year after year, our milk production slumped and per capita consumption dropped. Year after year our imports of very simple products like butter, cheese, baby food and

condensed milk rose, and rose, and rose. There was one happy exception to this rather gloomy scenario and it was my privilege to be associated with it. Not too far south of here, even before the dawn of Independence, a group of farmers became angry at the way in which they were being exploited by local traders and by a dairy known as Polsons. Polsons had been given a monopoly to supply milk to Bombay and, both they and the traders they employed to collect the milk, had used that monopoly to buy cheap and sell dear. The farmers struck and refused to supply milk. And they met with Sardar Vallabhbhai Patel who advised them to set up their own cooperative to collect and sell what they produced. Until they did so, he said, they would always remain victims. Sardar Patel chose Shri Tribhuvandas Patel to work with the cooperative which, when it began, collected only two hundred litres of milk a day. It was my good fortunate to become associated with Shri Tribhuvandas Patel and with the Kaira District Cooperative Milk Producers' Union, because through that association I learned a great many lessons that have guided me in my life and which I believe can help to guide our nation today.

One of the lessons — perhaps the most important one — was the reason why Kaira succeeded while all the milk colonies, all the intensive programmes, all the integrated programmes, and all the commissioners failed: quite simply, it was because the farmers of Kaira District elected their leaders and entrusted them with responsibility for the affairs of the cooperative. And those leaders, in turn, appointed a professional as a manager and entrusted him and his officers with the responsibility for management of the cooperative. But the leaders held the manager accountable for the exercise of his authority; and the members held the leaders accountable. This was a very important reason for our success.

Compare Kaira, if you will, with an intensive cattle development programme. If a veterinarian employed by the cooperative union fails to conduct himself properly, he is accountable to the farmers who pay him. The veterinarian in a government scheme is in no way accountable to those farmers and, unless he or she is a remarkable individual, that lack of accountability is evidenced day in and day out.

Is it any wonder then that when we proposed to replicate Kaira in other milksheds through Operation Flood, there was vigorous and unrelenting opposition from Milk Commissioners and Animal Husbandry Departments? Who would not prefer a system of blurred accountability to one in which those lines are clearly drawn. The government veterinarian had only to satisfy his superior, a far easier task I might say than satisfying the farmers whose lives and livelihood depend on the veterinarian's services.

Nehru wanted "to draw the mind of the people out of the old conception of some big officials sitting on top and ordering about people to do things." Unfortunately, there were a great many others up and down the line who wanted no such thing. And so what we have seen is a persistent and largely successful attempt to centralize authority as far away as possible from those whom that authority ought serve.

Why were our *panchayats* not a building block for democracy? Simply because without any resources — or the authority to raise resources — they quickly became a local debating society with little real sense of purpose. Our rural people are not fools and they understood that their local democratic institution was democratic, but had little responsibility and less authority. How can local leaders develop when they are given nothing to do?

And our village schools? How can the people of our villages ensure the quality of education when decisions on curriculum are taken in the state capital and when the hiring, firing and transfers of school masters and teachers is decided by officials the villagers have never met and for reasons that have nothing to do with the needs of the children of the village?

It is our cooperatives, however, that provide the clearest example of what has gone wrong.

Now a true cooperative is a very improbable form of enterprise. For it to succeed, women and men must put aside short-term gain for long-

term benefit. They must choose, willingly, to work with others who are of different castes, communities, religions. They must commit themselves to create the resources they need — not wait for some generous and benevolent government to give those resources to them. They must agree to a set of rules and find the way to govern themselves fairly and equitably. What they earn they must divide — not in relation to who has invested the most, or who is the most powerful, but in proportion to each individual's business with the cooperative. It seems a rather awkward and impractical way to go about things — yet we know that cooperatives do succeed. Cooperatives of every kind, in every corner of this country, have proven that cooperation does work. But the successes are, regrettably, the exceptions. They are exceptions because they and their leaders have had the energy, the courage and the commitment to succeed in the face of rather daunting odds.

You are all aware that cooperation in our country began well before any European arrived. You are also aware that the British introduced their version of cooperatives as a law and order measure, as a means to quell the mounting unrest in the countryside where our farmers had begun to rebel against their vicious exploitation by money lenders.

While the colonial rulers were willing to introduce cooperatives, they were certainly unwilling to entrust responsibility for running those cooperatives to the "natives". And so they created the office of a Registrar of Cooperatives, a position that was reserved for an officer of the Indian Civil Service, an institution that — as has been eloquently said — was neither Indian, nor civil, nor of service. The Registrar, in turn, was invested with the powers of life and death over the cooperatives, powers that were rather inappropriately described as those of the "friend, philosopher and guide." Thus from the start these cooperatives and the colonial cooperative law were alien not only to our own genius, but also to the very principles of cooperation.

One would have hoped and thought that at Independence our leaders would quickly scrap such legislation, replacing it with a new cooperative law that would allow our cooperatives to flourish. Alas, the

only change was the change of the letter “C” to the letter “A” as an ICS Registrar was replaced by a member of the IAS. Our new Registrars discovered that being God was not such a bad thing; and our Ministers discovered that being the boss of God was even better.

Over the years, cooperative legislation has become more and more prescriptive and more and more restrictive. The exercise of the Registrar’s powers have, on not a few occasions, been nothing short of draconian. States have gone for years without cooperative elections, postponement after postponement taking place on one pretext or another. Byelaws are prescribed by the Registrar for all cooperatives in a state. Boards are superseded *en masse*. Auditors who don’t know the difference between an asset and a liability are vested with the authority to question the business decisions of a cooperation federation with a Rs. 1,000 crore turnover. In federations, civil servants rotate through the office of managing director and even serve as chairmen.

What our cooperative laws have done is to violate and undermine the fundamental relationships on which cooperation rests: an elected leadership that exercises responsibility, but which is accountable to the members — those who own the cooperative; a professional management that is given authority, but which remains accountable to an elected board. When these relationships are broken, cooperation cannot succeed.

There are those of my friends who will say, “all this is well and good, but you must remember that it is Government that has the major financial stake in the cooperatives and which must protect public funds.” First, this is a myth. Government funds account for less than two percent of the funds in the cooperative banking system. Even NABARD lending — which is no less a liability of the owners of a cooperative than similar loans are for the individual or a private firm — pales by comparison with member and public deposits. If you look at most cooperative sectors in the country, it is member funds and borrowing that finance activities. Why, as borrowers, should they be any more subject to draconian legislation and regulation than is TISCO, or Reliance, or any other company?

Today our Government speaks of “liberalization”. Yet we have found that liberalization applies only to multinationals and big business houses. There have been responsible initiatives to liberalize cooperative legislation. These appear doomed to failure.

In 1990, the Planning Commission constituted a committee under the Chairmanship of Choudhary Brahm Perkash which, in May of 1991, recommended to Government a Model Cooperative Act. It is good legislation. It is legislation that embodies Nehru’s vision: faith is placed in the wisdom of our people to manage their own affairs. One would think, too, that the proposed legislation is good politics: a Government that has been criticized for being “big business friendly” could boast that liberalization extends to every village. Regrettably that has not been the case. At a meeting of State Ministers and Secretaries of Cooperation, objection after objection was raised against the Model Act. The most curious of these was the view that the people could not be trusted to elect proper leaders — an objection raised by elected servants of our people.

I am told that the draft amendment of the Multi-state Cooperative Societies Act that has emerged from the depth of Krishi Bhavan bears little resemblance to either the letter or spirit of the legislation proposed by the Choudhary Brahm Perkash Committee. I must mention though that since Government does not feel it can share its proposed amendment with cooperators, I am only speaking from hearsay.

Saddest of all, some leaders of the cooperative movement met recently under the aegis of the National Cooperative Union of India to prepare and recommend to the Government guidelines for cooperative legislation. Two such guidelines were dropped after heated debate: one called for cooperative legislation to empower the members of the cooperatives; the other recommended strict punishment for leaders who violated their trust. Such deliberate omissions speak all too eloquently of the character and principles of those “leaders” who were responsible.

And that is the point. Good leadership cannot emerge and thrive under the current cooperative laws. Those laws only encourage those who would use cooperatives as a stepping stone for political ambition. Those laws only aid and abet those who seek to gain power by dividing, rather than uniting our people. Those laws only support and encourage blurring the accountability of those who would presume to exercise responsibility and authority.

Yet the law is but a part of the reason for the failure of our cooperatives to help produce a new generation of leaders. Another — and perhaps greater — fault lies with those of us who naively believed that the ideology of cooperation was so compelling that those who became involved with cooperatives would be ennobled by the experience.

We failed to educate grass roots leaders in the principles of cooperation. We failed to train young men and women in the techniques of cooperation. And today that failure is all too evident in the character and performance of many of the leaders of our cooperative movement.

During the last two days I am sure you have explored “leadership” from many perspectives. You no doubt have attempted to define leadership. You have examined the sociology of leadership. You have investigated the political dimensions of leadership. Let me close, however, by reminding you of the moral dimension of leadership.

Gandhi once said that “cooperation will only succeed to the extent that it is a moral movement.”

Gandhi also taught us that morality is not simply a narrow matter of ethics: it is living what we believe. That is a task that takes great strength and courage. It is also an individual and a lonely task. I would ask each of you to reflect for a moment on the principles and values of cooperation. Do you believe in them? Do you believe they are important? If you do, then you must first strive to live those values. And once you do that, you must seek to advance, protect and defend those values.

If only a handful of you in this room leave with a renewed sense of commitment, and if you persist in that commitment, you can change the face of cooperation in India. You can contribute to the education of leaders. You can persist in the battle to convince our state legislatures and Parliament that cooperatives need new, progressive legislation. You can educate the public to understand that liberalization that fails to liberate our rural producers is nothing less than a deception on the nation.

What is crucial to our future is that we realize that leadership is not "them"; leadership involves each of us. Unless each of us is willing to lead in her or his own way, we will be led by the leaders we deserve.

Please be assured that this is an important challenge — perhaps the most important one that we all must address. Our nation does face a crisis of leadership. Day by day we see the last of an old generation of leaders — those who fought for and won our Independence — passing away. With them go the noble dreams and the nobler values that once inspired our nation. Day by day we see them replaced by men and women whose only interest is power and wealth. It is only by rebuilding a plurality of rural democratic institutions that we can restore the dream of a great, equitable and just nation. It is a challenge we cannot afford to ignore. Our future — and the future of our children and grandchildren — depends on it.

Sixth Dr. Nayudamma Memorial Lecture

Role of the Professional in a Liberalized India

Tenali, Andhra Pradesh
January 5, 1994

Mr. Chairman, trustees of the Dr. Y. Nayudamma Memorial Trust, ladies and gentlemen...

It is a long way to Tenali, and normally I would have been reluctant to make such a journey. However, although I did not know Dr. Y. Nayudamma well, I know much of him — and what I know commands my profound respect. To deliver a talk that is dedicated to Dr. Nayudamma's memory is an honour that I am proud to accept. I have found much in Dr. Nayudamma's life that is similar to my own; and I have found much in his values that I too cherish. Most important, however, is the message to all of us that Dr. Nayudamma's life embodied, a message that is all the more important at this very critical juncture in our nation's history.

Some in this audience might ask, "what critical juncture?" I know that many of my fellow countrymen and women have welcomed liberalization and globalization with open arms. They are delighted that they will be able to enjoy the same flavoured carbonated waters, the same hamburgers, the same fried chicken, the same designer clothes, and the same electronic toys as their counterparts in Europe, North America and Japan.

It is this very perception — or misperception — of "progress" that is central to the crisis our nation faces today. With your leave, I would like to speak a bit about my own life and experience to illustrate what I mean.

Like Dr. Nayudamma, I was sent abroad to study by the then colonial government just before Independence. I suspect that he, like I, was fired with a desire to contribute to our new nation. The India of our dreams was not simply one where our own flag flew, one where we could elect our own leaders, one in which we could set the rules. The India we dreamed of was a one in which all our citizens would participate fully in

the building of our nation; and one in which all of our citizens would benefit from the just, equitable and fair nation we created.

It was by chance, not design, that I became involved in dairying. Perhaps the same was true to Dr. Nayudamma with leather. And to be candid with you, when I returned to India from my studies in the United States, it was with great reluctance that I fulfilled my commitment to Government — a commitment that took me to a small, dusty, god-forsaken town in Gujarat called Anand. I believed that my contribution to India would be a far greater one, helping to build our steel industry into one of the world's finest. For me, as a young professional, my assignment to a government creamery in Anand was a brief exile to be endured before I marched forward towards my destiny.

A funny thing happened on the way to that destiny.

As the officer in charge of the government creamery in Anand I had very little to do. In fact, each month I wrote to government explaining how little I had done and requesting that I be relieved of my assignment, thereby saving government my salary. By chance, however, the building where I was "employed" was shared by a small cooperative which was struggling to prove that dairy farmers could own and manage their own business.

With your permission, let me digress to provide a bit of the history of that cooperative.

During the Second World War, the colonial government became concerned because a good many English men and women were falling ill in Bombay. The finger of suspicion pointed at that city's milk supply. Therefore the Government of Bombay decided to call in an expert. In those days — and, I regret even today — an expert was someone with a white skin who came from Britain, or Europe, or North America. And so an expert came from England to study Bombay's milk supply. I can do no better than to quote one sentence from his report: "The sewer water of London is bacteriologically superior to the milk supply of Bombay."

Now, even in those days, Kaira District was well known as a milkshed. In fact, an enterprising Parsi gentleman had established a dairy there and his products, sold under the brand name of Polsons, were famous throughout the country — perhaps almost as famous as the brand name *Amul* is today. So the Government of Bombay decided that it might be a good idea to bring milk from Kaira District to Bombay. They approached Polsons and, after all were satisfied that milk could be safely transported by rail from Anand, the Milk Commissioner awarded a monopoly contract to Polsons to supply milk to the consumers of Bombay.

This made a lot of people happy. The consumers of Bombay were happy because they got fresh, good quality milk at a low price. Polsons were happy because they earned a handsome profit on the milk they supplied. Perhaps happiest of all were the local vendors who — because of their monopoly — could dictate the price of milk to the producer. In fact, the only ones who were unhappy were the producers who received a very small share of what the Bombay consumer paid.

Finally these producers went to Sardar Vallabhbhai Patel for advice. Now, Sardar Patel was a very wise man who realized that true independence was far more than a matter of having one's own flag and Parliament. True independence was based on economic self-reliance, on control of the resources that the nation produced. So he advised the producers to form a cooperative to buy and market their own milk. He asked Morarji Desai to help organise the farmers. When the initial two cooperatives had been formed, a meeting was held to decide on the chairman. When Morarji Desai asked who would be willing to serve in this capacity, a number of individuals stood up. One man, however, sat quietly in the back, so Morarji asked, "Tribhuvandas, don't you want to be the Chairman?" Tribhuvandas Patel replied that he had just been released from jail and had a great many things to look after and, no, he did not want to be the chairman. And so, Morarji asked the farmers to elect Tribhuvandas Patel, which was a very wise choice.

When the Milk Commissioner of Bombay refused to buy milk from this new cooperative, he farmers again sought Sardar Patel's advice. That advice was quite clear, they should refuse to supply milk to Polsons — and to Bombay — until they were given the right to market what they themselves had produced. In a remarkable demonstration of unity and self-sacrifice, the farmers of Kaira District refused to pour a single drop of milk that would go to Bombay. Finally, the Milk Commissioner who, of course, was an Englishman, visited Kaira. When he met with the farmers they said that their only demand was that they be allowed to supply milk to Bombay through their cooperative. At that point, the assistant to the Milk Commissioner, who was an Indian, took his boss aside and advised him to agree. How, he asked, would a simple group of farmers manage such a complex and demanding business. It would, with certainty, flop within weeks at which time the original arrangement with Polsons could be restored. And so, the Kaira District Cooperative Milk Producers' Union obtained the right to supply milk to Bombay.

Now I should mention that all of this took place well before my own arrival in Anand. My sense of timing is excellent and I made my own entrance well after these struggles had been won!

However, the cooperative did have some problems and, from time to time, Shri Tribhuvandas Patel would come and discuss these with me. In the course of these discussions I had advised him to invest in a new pasteurizer as the cooperative was then working with World War I vintage equipment.

Meanwhile my persistent efforts to leave Government service finally bore fruit. The Government of India accepted my resignation and, with profound relief, I prepared to leave Anand for a career that would help make and shape our new nation. I was in the final stages of these preparations when Shri Tribhuvandas Patel arrived at my home — which, I might mention, was a garage — the only place that anyone in Kaira would rent in those days to a meat-eating Christian bachelor from Kerala. Shri Tribhuvandas Patel had heard of my imminent departure and reminded me that on my advice the cooperative had invested in an expensive piece

of equipment that was shortly due to arrive. Who was to help them set it up and commission it? He then asked if I had already secured a job, to which I replied that I had not, but was confident that several offers would be tendered no sooner than it became known I was available. After asking me what I expected to earn as a salary, Shri Tribhuvandas Patel pondered for a moment and then asked whether I would be willing to work for the cooperative until the new equipment was set up. Now, he was a shrewd Gujarati and instead of offering me a salary, he offered me a fixed amount for installing and commissioning the equipment — he didn't want some fellow stretching out the assignment at the cost of the cooperative! But, when that work was done, he asked me to stay on. I did, and I have now been in Anand for more than forty years. I don't regret a minute of that time.

In those forty years, I have learned a great deal. First, and foremost, I have learned that our greatest resource as a nation is our people. Not our scientists and technologists, our engineers and doctors — our richest resource are the women and men who produce the food, fibre and forest products on which we all depend. And I have learned that just as we have neglected and even abused our natural resources — our soil and our water — we have neglected and abused our human resources. We have treated our rural producers as a means to an end — our own ends which have been designed to ensure that our urban elite enjoy plentiful, inexpensive food, textiles, and other products based on agriculture.

I have also learned that when our producers are given control over the resources they create, there is nothing they cannot achieve. The Kaira Cooperative, or *Amul* as it is better known, is testimony to that fact. Beginning with two cooperatives and some two hundred litres of milk every day, the cooperative has grown from strength to strength. Today, virtually every village in Kaira District has a dairy cooperative society; the membership includes a significant percentage of the district’s farm families and milk collection now exceeds 10 lakh litres a day.

The success of our Kaira Cooperative led farmers in other districts of Gujarat to visit Anand, and to request our help in doing in their areas what we had done in ours. Now, can you imagine the Tatas, or the Birlas or the Ambanis sharing their know-how, their expertise, their raw materials and even their people with budding competitors? That is precisely what we did. We tried in every way we could to help other cooperative unions to organise their farmers, to build dairies and to market milk. But what we were able to do was on a very small scale.

Then, in 1964, the then Prime Minister, Shri Lal Bahadur Shastri, visited Anand. He had come to inaugurate our new feed factory, the largest and most advanced in Asia at the time. Unknown to almost everyone, the Prime Minister chose to spend the night not as my guest, but as the guest of a farmer in one of Kaira District's villages. During that night he spent much of his time talking to farmers. He spoke to well-to-do farmers and to Harijans. He spoke to Muslims as well as to Hindus. It was only very late that night that he could finally be persuaded to take some rest. And, early the next morning he again pursued his research. After the inauguration the Prime Minister took me aside and said, "Kurien, I know that your cooperative is a great success. I know, too, that almost every milk scheme in the country is a resounding failure. And so, I tried to discover the secret of your success. I looked at your soil — it's good soil, but certainly not as good as the soil of the Indo-Gangetic Plain. Your climate is the same as it is in much of the country — hot in the summer, cool in the winter, with very unreliable rain during the monsoon. I had expected to find green fodder everywhere, but it looks as brown here as it does anywhere in the country. I looked at your buffalo — they are certainly not as good as the buffalo of Punjab. Your farmers are good farmers, hard working and honest — but so are the farmers throughout India. What then, Kurien, is the secret of your success?"

The secret that I shared with the Prime Minister — a secret that I believe he already knew — was that in Kaira District the farmers owned the cooperative. In their wisdom, they had hired a professional to work for them. In fact, in time, they had hired a considerable number of professionals. These professionals knew that they worked for the farmer,

that they had been hired — and they could be fired — by the farmers. And so they worked with a diligence and commitment that was uncommon, to say the least. It was an example of what could be achieved when the wisdom, energy and power of our farmers are linked with the training and ability of the professional.

Prime Minister Shastri saw what we had achieved and what could be achieved, and he then asked if we would replicate Anand in other parts of India. This was the beginning of Operation Flood and the National Dairy Development Board. Later, having seen what had been achieved with milk, the Government of India asked NDDB to become involved in oilseeds and edible oil, and then fruits and vegetables, and then even with tree growers and salt producers.

What has been achieved? At least some of you here today will recall when clean, fresh milk was virtually unknown in our cities, times when milk was a rationed commodity and consumers had to stand in long queues for a half a litre. When we began Operation Flood in 1969-70, our per capita milk consumption was falling and stood at 107 grams per day. This year I suspect it will be close to 200 grams per person per day — and, as most of you know, we have quite a few more persons in 1994 than we did 25 years ago. When Operation Flood began, we were importing most of our dairy commodities; today we are virtually self-sufficient and, as the world's second largest milk producer, are poised to become an exporter of dairy products. More than 80 lakh women and men belong to more than 60,000 dairy cooperative societies in almost every corner of India. Cooperatives supply milk not only to our major metros, but to most of our cities and large towns.

A more recent memory is our shortage of edible oil. Where once India exported oilseeds and oil, by the mid-1980s we were importing 20 lakh tons of edible oil annually, at an enormous cost to our foreign exchange. In fact, only the cost of imported petroleum products exceeded that of edible oils. Today, again, we are virtually self-sufficient — the result of farmer-owned and controlled cooperatives and an intelligent set

of policies that have created a real incentive for increased production and productivity.

These achievements are not insignificant. But they are not what Operation Flood or NDDB is about. True development is not the development of dairying, or oilseed production, or numbers of this or that — true development is the development of people.

If you go to a dairy cooperative in the morning or evening, you will see a queue of women and men waiting to pour their milk. In that queue you will find Harijans standing in front of Brahmins — because they came first. You will find women standing in front of men. You will find poor standing in front of rich. What, I would ask you, does it mean to Harijan and Brahmin to see their milk merge in a common can — are not the age-old distinctions of caste and class submerged in that milk?

In many villages the building of the dairy cooperative society is constructed of modern materials and is kept clean — screening is there to keep out the flies, the floors are kept clean, the utensils in which the milk is handled are carefully washed. Does this not provide a lesson in hygiene for all who pour milk at the society?

Years ago when a buffalo became sick in Kaira District, a black thread would be tied round its horn and she would be left to die. For many years now, when an animal was ill the farmer calls the cooperative and a veterinarian arrives within hours. Animals that would have died have been treated and survived. Is this simply a veterinary service, or is it an important lesson in the ways in which modern medicine can improve our lives?

A good many years ago the Kaira Cooperative began to arrange for women members to come to Anand to visit their dairy. During the course of the visit they were taken to the artificial insemination centre where the miracle of conception was explained. Did this not help these women to understand the processes of reproduction and, more important, that these can be controlled?

Later the women would visit the cooperative's feed factory where an officer would explain the importance of protein, vitamins, minerals, etc. He would stress how important it was that a pregnant cow receive good nutrition, and that a young heifer be fed as well as a milking cow. Was this simply a lesson in animal nutrition, or was it a lesson in the importance of proper feeding for pregnant women and young girls?

The most important lessons have been the lessons of democracy. Each year the members of each cooperative society meet. They review the performance of their cooperative and its plans for the future. Then they vote to elect board members for the next year. Later the chairpersons of each society meet and elect the directors of the union. And — at least in those states that don't fear the democratic process — the union chairpersons later meet to elect their state federation directors. Here, in a very tangible way, the 80 lakh members of dairy cooperatives build a democratic structure at the grass roots. Here leaders learn that there is a relationship between performance and election. Here our farmers learn that they can truly control their own destinies.

If I may, let me turn briefly to the life of Dr. Nayudamma and some of the lessons that he has taught us.

Dr. Nayudamma was a scientist. In his field — leather — he attained considerable distinction. There is little doubt that he could have become a very wealthy man — either here, or abroad. But, he chose to devote his life to bettering the lives of our country's tanners, among the poorest and most backward of our citizens. He recognized that the tools of science were not meant only — or even primarily — for the privileged. They were not well used when they simply helped those with a great deal to earn even more. Rather, the proper use of science was to benefit those whose lives depended on it.

The second lesson that Dr. Nayudamma taught us is that there is much wisdom in our traditional practices. Years ago, when we built our first feed factory in Kaira District, we were surprised at the reluctance of

our village women to feed compound feeds to their buffalo. We had to go to considerable lengths to convince and induce them to replace their traditional boiled cottonseed with our "modern" feed. Later, as animal nutrition evolved, we learned that bypass protein — which could be boiled cottonseed — has significant nutritional advantages. Similarly we have often learned that the *ghee* which we were told was unhealthy, may well contain properties that are extremely beneficial.

As you probably know, Dr. Nayudamma had great respect for the wisdom of village tanners. Their practices often led him to inquiries that, in turn, improved tanning and leather working for people throughout the country. Too often our scientists and technologists believe that their training has invested them with wisdom when, in fact, the unlettered villager often possesses the greatest wisdom of all. Dr. Nayudamma taught us that what is important is to synthesize modern science with the traditional wisdom found in our villages — a task we must do before that wisdom is destroyed by knowledge.

Dr. Nayudamma also recognized that there are significant and important relationships between technology and social and economic change — few technologies are neutral; almost all produce significant and often unanticipated changes in the lives of many people. This is one reason why we believe that it is our producers — not scientists or bureaucrats — who should control the application of technology.

Rare among our scientists and technocrats, Dr. Nayudamma recognized that science must be directed to the needs of our people and the needs of the industries it serves. During his tenure at the Central Leather Research Institute, its research was widely recognized and respected because it directly addressed the needs of our leather workers and the leather industry. Similarly, while with CSIR he attempted to re-focus our national research infrastructure on the industries that they should serve. Had he succeeded, would we be importing technologies — even the simple technologies of frying potatoes and carbonating beverages — today?

Next, Dr. Nayudamma's life shows us that results come from commitment. His achievements at the Central Leather Research Institute were "rewarded" with the Director Generalship of CSIR. I fear most of our technocrats would have seen this merely as a stepping stone to further "glory",. What did Dr. Nayudamma do? After six years at CSIR he stepped down in order to return to his research at CLRI — he had his purpose clear, and he kept it constant. What a contrast to today's young men and women who flit from flower to flower, pausing only long enough to extract the pollen, leaving little or nothing in return. I fear, however, that in the end they will find that whatever money they have earned, and whatever fame they may have achieved, they will have little of the satisfaction that comes from a commitment well and truly served.

Last, I would like to believe that Dr. Nayudamma's life shows a belief in the common man and woman, and a burning desire to empower them with the tools of science, to make modern technology the servant — not the master — of the people who labour in their quiet way to make this country great and good.

That brings me back to where I began — the crisis that faces our nation today. We have lost our sense of purpose as a nation. The men and women who fought and died for our freedom did not do so in order that we might watch STAR TV and buy Coca Cola. They fought and died to build a nation in which all of our citizens would strive together to create a good nation, so that out of its goodness could become great. At that time, we shared a belief in the equality of men, a recognition that many of our fellow citizens lacked the advantages we enjoyed. We saw that our villages and our slums lacked the very basics of adequate food, clean water, health services, education, and a voice in their own destinies. We who came of age at the dawn of our Independence accepted a trust — to do all that we could to build a nation that was equitable and just.

That trust has been betrayed. Today, seduced by consumerism, prodded by the international financial institutions and multinationals, driven by our own greed, and fueled by corruption, our elite is creating two nations: a small nation of the rich resting on the backs and enjoying

the fruits of the labour of a vast nation of poor. Again and again we have tried to encourage Government to ensure that our rural people retain a stake in India's greatness — only to be disappointed that even the smallest change that would benefit our farmers is sacrificed to the interests of "foreign investment".

In our own country and around the world today one senses a rather naive, even foolish belief that all is well. That there is enough food, and that there will always be enough food. That there are sufficient non-renewable resources to allow their wanton and even senseless consumption. That we can cut our forests and destroy our land, for there will always be more trees and more soil. That we can ignore the vast multitude of ill-fed, ill-clothed and ill-cared for masses in our villages for, after all, has not socialism failed? Now we — the world's educated elite — can enjoy our own version of Reaganomics — the certification that narrow self-interest is not only acceptable but preferable.

We do this at our peril. Not simply because a world divided between rich and poor, between North and South, cannot survive, but because we pursue such a course at the cost of our souls. There can be little to sustain a life that is based on greed and self-interest. Ultimately, like a body deprived of nourishment, the soul without commitment to a nobler cause will wither and perish.

When I was young, I believed that those of us who were fortunate enough to receive a good education, to occupy good positions, to enjoy the unique privilege of work that we enjoyed, that we — our educated elite — had a duty to turn our talents to the service of those less privileged. I believed, too, that if we did so, our nation would flourish.

I still believe that. I believe that if our educated elite will cast aside self-interest and the desire for material goods, we can build the nation that our freedom fighters dreamed of. We can build a nation that is truly just. We can build a nation where the wisdom of our rural people is not only respected, but serves as a foundation for a better future. We can build a nation where our human resources blossom, rather than withering

in the dusts of neglect. And we can build a nation in which there is enough for all to enjoy — not just the few.

Dr. Nayudamma was a great man, a man who devoted his life to the dream of making science serve India's people. It is not enough that we gather once a year to celebrate the achievements of such a man, then go back to business as usual. Can we honour a man if the principles he stood for have been discarded by the very institutions he built? Can we applaud what he did, then turn and do the opposite?

I would therefore ask each of you to carefully consider what Dr. Nayudamma stood for:

* ensuring that modern technology benefits those who toil in our villages

* respect for the wisdom of our rural producers and artisans

* recognition that every technical change has important social and economic implications, reasons why producers not technocrats should determine the nature and pace of change

* commitment to a field as a life's work, not as a passing fancy to be discarded when a "better opportunity" arises; and

* belief that our nation's future depended on empowering our poor.

Each of you present is, by some measure, a member of our elite. With each of us — not with government, not with politicians, not with anyone but ourselves — rests the responsibility for a better India. In his life, Dr. Nayudamma set a challenge for each of us. He lived his life in consonance with principles that were noble, and he ennobled those with whom he worked, and those he served. If each of us, in some small way, does likewise, there is no nation on earth that will be able to stand comparison with us. We will be a nation in which that which is good in

man is realized and respected; our national democracy will be underpinned in each village and town by a vibrant and living democratic spirit; our national wisdom will reflect the wisdom of all our people. That, then, is the challenge that Dr. Nayudamma has set before us, the challenge to create the India of our dreams.

Thank you.

Industrial Economist Business Excellence Award 1994

Special Address on Subsidies

Madras
March 12, 1994

Dr. Swaminathan, Shri Viswanathan, distinguished guests, ladies and gentlemen ....

When Shri Viswanathan kindly invited me to be present tonight, included in the fine print of his letter was a clause that required me to "sing for my supper". No subsidies from the *Industrial Economist* it would seem!

When I reflected on the suggested subject of my address, and this evening's theme — “subsidies” — it occurred to me that I had in fact spent much of my life fighting against, and for, subsidies. It therefore seemed a subject on which I might be qualified to speak, and one that is in fact of considerable importance to India today.

There is a problem with the word "subsidy"; it not only means different things to different people, it also arouses quite strong emotions. When a World Bank economist hears the word "subsidy", it is usually sufficient to cause apoplexy. On the other hand, if it is suggested to one of our honourable political leaders that a particular subsidy might well be reduced or withdrawn, the reaction is equally visceral. I have found myself sharing both reactions at various times. So, perhaps if I describe some of my experiences to this distinguished audience it may contribute a bit more clarity.

As some of you may know, I have spent my life as an employee of farmers. What many of you may not know is that the Kaira District Cooperative Milk Producers' Union was started in reaction to what might be characterized as a subsidy programme of the erstwhile colonial government.

During the Second World War, the Government of India were alarmed by the high rate of intestinal and other tummy upsetting disorders affecting their British citizens in Bombay. As was the practice in those days, they called in an expert. Then, and unfortunately as is all too often the case today, an expert, by definition, was white, English speaking, and from far enough away not to be held accountable for his recommendations. In this case an English expert was called in. I can perhaps best describe his findings by citing a single line of his report: "The sewage water of London is bacteriologically superior to the milk of Bombay."

Clearly this posed a problem for the Government. It was quite essential that the British men, women and children domiciled in Bombay should have access to clean, fresh and hygienic milk. It was a fact that even in those days the Kaira District of Gujarat was recognized as a superior milkshed. The conditions there had conspired to ensure production of bountiful quantities of milk, so much so that India's premier dairy, "Polsons" — a name almost as well-known then as *AMUL* is today — was located in Anand in Kaira District.

Because of this plentiful supply of milk, the Milk Commissioner of Bombay conceived of a scheme, or shall we say, he schemed: he would contract with Polsons to procure and ship fresh milk to Bombay. After the feasibility of doing so was demonstrated, the scheme was started in right earnest. Polsons, for this service to government and the people of Bombay, was given the sole right to purchase milk in Kaira District. Almost everyone was delighted by the results. The milk consumers of Bombay received a supply of superior milk at a very low price. Polsons earned a handsome profit by organizing the procurement and shipment to Bombay. And the traders who bought the milk from Kaira District's farmers were the happiest of all: milk being a perishable commodity, they could pretty much set whatever price they wished, earning a very handsome margin in the process.

Now, if you think about it, this was indeed a subsidy programme. The objective was to make inexpensive, safe, good quality milk available

to the citizenry of Bombay. This was achieved through monopsony purchase of milk. In short, the farmers of Kaira district were subsidizing the milk consumers of Bombay.

Not surprisingly, the farmers objected. They went to Sardar Vallabhbhai Patel and, after explaining their predicament, asked for his advice.

Now, if you will forgive an unpaid advertisement, I would urge you all to see the movie, *Sardar*, in which the history of the Kaira farmer's milk strike and the formation of our cooperative is presented. Suffice it now to say that following the Sardar's advice, Kaira District's farmers fought back and ultimately won the right to sell milk to the Bombay Milk Scheme. To do this, they established a cooperative — the Kaira District Cooperative Milk Producers' Union, better known by the name *AMUL*. And, because the Milk Commissioner was convinced that a group of farmers would never succeed in managing their own cooperative, he granted them permission to sell milk to Bombay. The rest, as they say, is history.

When Independence came, the British Milk Commissioner was replaced by an Indian — but the urge to subsidize the urban consumer at the expense of the farmer continued. As some of you may know, the buffalo and the cow don't produce the same amount of milk every day of the year. During the winter when the weather is cool and feed is available, milk production soars; in summer, when the weather is hot and dry and feed is scarce, milk yields drop and many animals become dry. Now, our new Indian Milk Commissioner in Bombay had discovered that he could import milk powder — no doubt subsidized by the governments of the exporting countries — and blend it with our local milk and thereby not only keep the milk price low, but earn a healthy profit as well. So, when winter came and our milk supplies soared, he would refuse to take Kaira District's milk. He much preferred his imported powder and the profits it generated.

By that time I had joined the Kaira District Cooperative. You will note my excellent sense of timing: I enter the scene once the battles have

been fought, all the hard work has been done and the cooperative has been established and is running!

When we were faced with the refusal of the Bombay Milk Commissioner to buy our milk during the flush season, we naturally protested. We saw no reason why the farmers of New Zealand should be given preference over our own farmers. Our Chairman, Shri Tribhuvandas Patel, and I met the Milk Commissioner and then met the Minister and, ultimately, with a great deal of support from friends in high places, we prevailed. But the lesson was clear: unless we established the capacity to conserve our milk by manufacturing powder and butter, and unless we were able to produce and market value-added products, our farmers would be subject to the whims of every politician and bureaucrat who wished to curry favour by ensuring cheap milk supplies to our major cities.

Over the years we continued to face such problems. You might even say that one central rationale for Operation Flood was to pre-empt the dumping of large quantities of surplus European powder and butter in India. That would have ensured inexpensive milk for our cities and disaster for our milk producers.

Even with the success of Operation Flood, the pressures to subsidize the urban milk supply — at the cost of our farmers — continued. I have never understood the formulae our politicians use: how are the votes of urban consumers more valuable than those of rural producers? Why does the Parliamentarian from Chhattisgarh or Rayalseema feel it is more important to ensure that Delhi's consumers can buy milk at the lowest price in India while farmers in their own constituencies earn a bare subsistence income, if that. Within the last 18 months, the price of milk in this city of Madras was kept so low that sharp drops in cooperative procurement took place with private vendors sopping up the difference and earning large profits through sale of that milk in Kerala.

Some years ago, when the late Rajiv Gandhi was our Prime Minister, Government was putting considerable pressure on us to constrain the Delhi milk price. I went to the Prime Minister and told him that I thought

that he had more important matters with which to concern himself and his Cabinet than the price of Delhi's milk! After a moment's reflection he agreed and, since then, we have been able to adjust prices to reflect the market. But, whenever we do increase the price of milk, the howl from consumers is loud: newspaper photographs show rather well-fed ladies agitating against the increased price and editors write piously about how 50 paise more for milk is a clear blow to the well-being of the nation! Of course, when those newspapers raise their prices, it is "because of the increased costs of production", a factor that apparently doesn't affect our nation's farmers! In fact, our urban consumer -- so pampered by subsidies, fails to recognise that what he calls the price of milk is no less than what the farmer calls her income.

Over the years, the subsidy on milk has largely been ensured by repressing the urban milk price. The effect has been to ensure that every strata of society can buy cheap milk — at the cost of our farmers. The long-term price, however, is a high one: low prices cause the farmer to turn to other investments and it isn't long before production declines and prices soar. Either that, or we are forced to import at the cost of our foreign exchange reserves. This is precisely what happened in the case of edible oil.

There are probably some of you present who will recall that India was once a net exporter of oilseeds and oil. However, that picture began to change dramatically and for the worse in the 1960s.. Government, in its wisdom, decided that edible oil was essential and therefore embarked on a program of importing oil for the Public Distribution System and to ensure adequate supplies to the *vanaspati* manufacturers. By the middle of the 1970s, we were the world's largest importer of edible oil.

About that time, Government had also noticed that Operation Flood was producing some commendable results. We were asked — initially by the Gujarat Government, and then by the Government of India — to try to do with oil what we had done with milk. We agreed, albeit with some reluctance. Where the traditional milk business was scattered and not well-organized except around our cities, the oil trade was in the hand of

some of the wealthiest and — so as not to offend the sensibilities of those present I'd better not use the appropriate adjectives — the best organized oligopoly in the country.

When I agreed to take up this task of getting our oilseed economy back on its feet, I told Government that success depended on ensuring that our farmers received a stable, remunerative price for their produce. To achieve this, we had to moderate and then reduce imports and we had to end subsidies to *vanaspati* manufacturers and the other beneficiaries of the wholesale imports that were then taking place.

A look at those subsidies is very instructive. Who should have received subsidized oil? I think everyone here would agree that it should have been our rural and urban poor, those who need a small bit of oil to ensure inclusion of some vegetable fat in their diets. And, I'm sure many of you would add, "that is what the Public Distribution System is for".

What happened to that imported oil — oil that the country often paid a premium for because everyone knew that the STC purchased only on Thursdays and world prices would respond accordingly? Well it was divided between the *vanaspati* manufacturers and the PDS. The *vanaspati* manufacturers? Is *vanaspati* a product used by the urban and rural poor? How often do you see a poor person walk into a shop and purchase a 5 kilogram tin of *vanaspati*? Have you ever seen a *vanaspati* package of 50 grams, or a 100 grams? *Vanaspati* is a product consumed by the urban middle class as a substitute for *ghee*! Despite what the *Vanaspati* Manufacturers Organisation would have you believe, it is not a poor man's product.

Well and good. There is at least the PDS. Or is there? When we got involved with the oilseed and oil business we discovered a very curious fact: the oil deficit states are places like Bihar, UP, Rajasthan and the like. But it was <u>not</u> those states that received PDS oil allocations. In fact, in the average year Bihar received around 1percent of PDS oil and UP about 2percent. Where, then, did PDS oil go? It went to the very states —

Gujarat, Maharashtra, Andhra Pradesh and Tamil Nadu — that are our major oil producers. Do you find that curious?

When we discovered this rather remarkable allocation of oil, we also found that the vast majority of it was provided in bulk. So we proposed, perhaps a bit naively, that it would be a good idea to pack PDS oil in very small, but secure, packaging so that it would be available in a clean, hygienic form for the poor consumer. To judge from the reaction from the Civil Supplies Department you would think we had proposed violent revolution.

Let us be quite clear: we were importing edible oil at great cost to the national exchequer. At its peak the oil import cost was enormous: one million tons worth Rs. 735 crores ($600 million) in 1985-86; 1.47 million tons worth Rs. 626 crores ($489 million) in 1986-87; 1.95 million tons worth Rs. 969 crores ($747 million) in 1987-88; and another 1.1 million tons worth Rs. 730 crores ($504 million)in 1988-89. Most would agree that if this investment of foreign exchange was meeting a critical nutritional need of a vulnerable section of our population, then perhaps it was justifiable. But the fact is that it was subsidizing *vanaspati* manufacturers and the oil trade who used cheap imported oil to blend with their own purchases while selling the final product at enormous profits!

During this period, imports accounted for one-fifth to one-third and more of our domestic oil supply. The cost per ton of our imports actually declined from $579 to $465 during the period and was less than $400 during 1986-87 and 1987-88. Yet the wholesale price index for edible oil increased 47percent from 288 to 423 during that period, peaking at 473 in 1987-88 **when imports accounted for 40percent of our oil supply and were almost $200 per ton cheaper than in 1985-86!** In other words, during a four year period, our Government spent more than $2 billion to import oil equivalent to something like 30percent of our domestic supply, yet prices rose while — not surprisingly — oilseed production plummeted. Who benefited from this massive subsidy:

Not the consumer for whom edible oil prices rose more rapidly than did other commodities!

Not the farmer whose harvest prices were beaten down by traders with access to cheap imported oils!

Not the country, which spent $2 billion without meeting any significant domestic objectives — unless higher prices and depressed production were the goal!

The subsidy went straight into the pockets of the oil trade and *vanaspati* manufacturers. That, ladies and gentlemen, is a national tragedy.

Government did act to correct this situation. In 1989-90 an integrated policy on oilseeds and edible oil was adopted to restrict imports, to wean the *vanaspati* industry from cheap imports, and to ensure that PDS oil went to those for whom it was intended. Along with this, the NDDB was asked to manage a Market Intervention Operation (MIO) to maintain oilseed prices at a remunerative level and to restrain, when needed, increases in the prices of oil. What was the result? Within four years we have achieved near self-sufficiency in edible oils. There is stability in oil prices and *Dhara* has given our farmers a brand name, and our consumers an oil product that is reliable and inexpensive. Imports are a fraction of their earlier levels, as are our foreign exchange outlays.

One would have thought that this would have been trumpeted as a triumph by Government. Instead, from the day the integrated policy was announced it has faced fierce opposition. This has come not only from the oil trade and their supporters in the press. Regrettably, it has come from within Government itself, where some of those mandated to implement the policy have persistently opposed it. It would seem that those who receive subsidies are often reluctant to see them end!

Let me touch briefly on some other subsidies:

You have no doubt seen articles in the press in which we are told that Government is carefully considering continuation of fertilizer subsidies, balancing the cost of the subsidy to the treasury as against the interests of our "poor farmers."

The cost is substantial: In 1991-92 our farmers are reported to have consumed about 13.6 million tons of nutrients, with an estimated subsidy of Rs. 4,000 crores, or about Rs. 2,940 per ton of nutrient. Bear in mind that a ton of nutrient translates into considerably more fertilizer! Even so, the cost works out to only about Rs. 570 per hectare of land under high yielding varieties, where yields, prices and returns have increased far more rapidly than have the prices of fertilizer. In fact, most studies show that among farmers, the burden of any reduction in fertilizer subsidies would be borne largely by sugar cane and wheat farmers — those whose incomes are amongst the highest of all our farmers. Very little of the burden would be carried by the poor farmers for whom our politicians and bureaucrats shed tears.

Who are the real beneficiaries of fertilizer subsidies? Most would agree that the lion's share of benefit accrues to fertilizer manufacturers, particularly those whose levels of inefficiency make them uncompetitive — almost all of which are state owned. So the tax burden of Rs. 4,000 crores that we are told is needed to subsidize our "poor farmers" is largely of benefit to “poor state industry.”

There are many other subsidies that are defended as essential to the welfare of our "poor farmers". Electricity is subsidized — when it is not stolen. Irrigation water is subsidized — when it is available. The net result, of course, is that power isn't at hand for farmers when they need it, and neither is water. Our rural electric systems are in disarray, only marginally better than the state of the irrigation systems in which our nation has invested so much. The real objection to a Narmada Project should be that the water will be given away, the system will fall into disrepair, no farmer will invest in drainage and efficient use of water, and within five decades the money will have been totally squandered.

Let me mention one last subsidy: agricultural credit.

You are perhaps aware that most agricultural credit through cooperatives is subsidized. If you or I go to a bank to borrow, we may pay an interest rate of 16percent or 18percent; but our farmers receive credit at 12percent. Now you might think this is a good thing. After all, those loans are used to build our agriculture, to ensure that we all have the food and fibre necessary to live. But, if you did think it was a good thing, you would be mistaken.

First, the demand for agricultural credit is far greater than the supply of loan funds. Our farmers cultivate something like 175 million hectares of land every year, more than 50 million hectares of which is irrigated. In 1990-91, cooperatives, commercial banks and regional rural banks together loaned farmers Rs. 13,555 crores. That sounds like a lot of money, until you divide it by 17.5 crore hectares. It works out to about Rs. 775 per hectare which, as any farmer will tell you, is not even enough to buy sufficient groundnut seed to plant that hectare. And, let me tell you something that NABARD doesn't publish in its statistics: a good portion of that Rs. 13,555 crores was actually what is known as an "adjustment". A farmer who already owes Rs. 600 goes to his cooperative and gets a new loan for Rs. 700. Out of the Rs. 700 he pays the principal and interest on his old loan, buys some "tea" for the secretary, and walks out the door with Rs. 15.00 or so!

Another fact not mentioned in the statistics is that a loan is useful only if it is available at the time when the farmer is paying for inputs. It's of very little use if he receives it long after the crop is sown. By then he has borrowed from someone else — usually someone who charges far more than 12percent and who doesn't offer loan waivers.

I mentioned that the average loan is Rs. 775 per hectare. How much does the farmer save if he pays 12percent instead of 16percent? He saves Rs. 31.00. To save that amount, what does he have to spend? Well, he probably has to make two or three trips to the tehsil headquarters to complete the paperwork. That means his time, transport, meals, and whatever little extra may be necessary to lubricate the wheels of

officialdom. He may also find that he has a loan in kind — and that “kind” is not quite what he should be entitled to. While the totals vary, those who study such matters are quite certain that whatever the 4 percent difference might represent as gain is more than offset by the additional costs involved.

If you ask a farmer about the interest rate, he will tell you he would gladly pay the full rate if the loan were on time; if it were calculated based on his needs — not some formula cooked up in a remote *Bhavan;* if there were no corruption involved in getting it approved and released; and if it helped to ensure that his cooperative attracts sufficient funds to lend what he and other members need for their agriculture.

Now you may agree that the four percent agricultural loan subsidy is not really as important as our political and bureaucratic protectors of the poor farmer would have us believe. But, you might ask, what about the loan waiver! There every farmer who owed less than Rs. 10,000 had his loan waived. There we have a genuine subsidy. Or do we?

Someone once said, "there is no such thing as a free lunch". Loan waivers were supposed to be a free lunch. But, once again there are costs -- both to those who were the "beneficiaries" as well as to tens of thousands of innocent men and women. Once the loan waivers were announced, the cooperative credit structure virtually collapsed for a year. No money was repaid, no new money was deposited, and therefore only very reduced funds were available for loans. The long-term damage in terms of the system's credibility is clearly far greater.

But who has paid for this largesse? Government has, to an extent — which means that you and I, as taxpayers, have underwritten the costs. However, the cooperative system itself has borne much of the burden and, despite what you might believe, the finances it uses are largely the savings of its members as well as of the public who deposit funds with the District Central and State Cooperative Banks.

There is another subsidy in the cooperative structure which also is worth noting. Normally the margin charged by a financing institution is related to its volume. Small volume, larger margin; large volume, smaller margin. This structure is inverted in the cooperative credit structure with NABARD itself enjoying the largest margin, followed by the State Cooperative Banks, District Central Cooperative Banks and, both last and least, the primary cooperative which borrows at 10percent and lends at 12percent. A number of eminent economists including Dr. Khusro have studied this system and pointed out that it is upside down. To date, no change has been made. So the subsidy to the farmer is also — and more significantly — a subsidy to a system that is paid by the farmers' own cooperatives.

But, we shouldn't be surprised by this. The financial system as a whole is designed to subsidize the urbanite, the worker, and the industrial sector at the cost of our rural people. In 1989-90, our primary sector accounted for Rs. 66,902 crores, or roughly 34 percent of our gross domestic product (at 1980-82 prices). Although I don't have the data at hand, I suspect that those engaged in the primary sector were responsible for a roughly equivalent percentage of our gross domestic savings. As on March 31, 1990, total outstanding direct and indirect finance to agriculture came to Rs. 16,515 cores, or roughly 13.5 percent of outstanding bank credit. Quite simply put, our rural sector is making do on the crumbs not only of the national cake, but of what they produce and save as well.

Any discussion of subsidies would be incomplete without mention of the subsidies inherent in our treatment of organized labour generally, and of public sector employees in particular.

Let me share a story with you. A while back a dairy farmer in Kaira District heard quite a commotion from his neighbour's yard. Children were screaming with excitement as a tempo pulled in and then the entire family loaded bags, food and the other requirements of a lengthy trip. The farmer asked his neighbour where they were all going. The answer was that they were headed to the Andaman Islands. How, wondered the farmer, could they afford such a trip? Easy came the reply: the man

worked for AMUL and his travel was paid for by his leave travel concession! His holiday was being paid for by the dairy farmer, and by the other four lakh members of the cooperative — few of whom earned nearly as much as the fortunate tourist.

Our farmers have made this country self-sufficient in food grains when, two decades ago, every "expert" said we were on the brink of starvation. Our dairy farmers have raised us not only to self-sufficiency, but to the point where in the next decade we stand poised to become one of the world's major international exporters of dairy products. Our oilseed farmers have saved the nation thousands of crores of rupees simply by raising their productivity and production. In virtually every area of our agricultural economy, our farmers have literally kept this country alive, fed and clothed. They have done this by and large with their own investment, their own labour, their own ingenuity. And at their own risk.

During the decade beginning in 1980-81, our oilseed farmers increased their production by 70percent; potato farmers by 57percent; sugar cane farmers by 55percent; wheat farmers by 50percent; cotton farmers by 40percent. In many cases this was the result of increased investment in new varieties, fertilizer, pesticides and labour intensive cultivation.

By comparison, during that same decade the public sector also produced a massive increase: employment rose from 150 lakh to 185 lakh persons: Central public sector employees rose from 18.4 to 22.4 lakh persons. Their per capita emoluments went from Rs. 14,240 to almost Rs. 44,000, at an annual cost of Rs. 9,750 crores. Productivity? Rail lines maintained per worker declined. Bank transactions per employee declined. Public sector earnings per employee declined. And yet if the price of a litre of milk goes up by 4percent, organized labour shrieks with outrage. What we have created is Government of the employee, by the employee and for the employee.

Lest you begin to believe that I have begun to join forces with the World Bank and International Monetary Fund in opposition to subsidies, let

me now turn briefly to those venerable institutions and their programme of economic reform.

You might recall the mention I made of fertilizer subsidies. Today, I believe, the World Bank is rather anxious to dismantle these so that we can become "competitive" with fertilizer producers in other parts of the world. I suspect that if we go back a bit in time, we will find that the World Bank — along with others — recommended that we adopt subsidies in order to encourage use of fertilizer by our farmers. Now, however, they have discovered God. And God is the "free market". The gospel of the free market includes what its apostles call "comparative advantage", a rather elaborate way of saying, "if we can produce something cheaper than you can, then you should buy it from us and stop making it yourself." And, when they put us under their "macroscope", they find that, alas, we lack comparative advantage in so many things, including oilseeds and possibly even milk.

What the World Bank and IMF economists don't mention, however, is that the comparative advantage is not necessarily based on productivity, but on the heavy direct and indirect subsidies to agriculture in the advanced agricultural nations. The Organisation for Economic Co-operation and Development (OECD) regularly publishes information on such subsidies. You might be interested to know that in 1991 the dairy farmers of the European Community received what is known as a "Producer Subsidy Equivalent" of ECUs 23.1 billion. That works out to ECUs 204 per ton of milk, or 69percent of the price. In other words, the EEC governments were subsidizing their dairy farmers at rates as high or higher than the price our farmers received for milk.

Many of you are probably aware that our nation's worthy creditors believe that we lack the wisdom, experience and skill necessary to manage our own affairs. They are good enough to regularly advise us on how we might better use our resources. The World Bank has turned this into an art form and, from time to time, prepares what it calls a "Country Economic Memorandum". As disciples of such eminent economists as Milton Friedman and Ronald Reagan, the World Bank economists are committed to "comparative advantage" and are quite hostile to countries

like ours subsidizing anything. The 1991 Country Economic Memorandum, Volume II, is titled "Agriculture — Challenges and Opportunities". It's not quite clear whose challenges and whose opportunities that title refers to, but I have my suspicions. In that tome, after noting that our subsidies for food and agricultural inputs were Rs. 135 billion (US$ 7.6 billion), the authors go on to deplore the "protection" of oilseeds and the 10 percent (on value added) subsidy on groundnut.

The members of the European Community are also members of the World Bank. In 1991 they spent ECU 3.35 billion in subsidies on oilseeds, or ECU 259 per ton! That worked out to a Producer Subsidy Equivalent not of 10percent, not of 20percent, not even of 50percent — it was 67percent! The only comparative advantage the EEC oilseed farmer enjoys over his Indian counterpart is the deep pockets of his Government!

This seems to be a classical case of "Do what I say, not what I do." Agricultural subsidies, it seems, are fine in Europe and North America, but when exported to Asia and Africa somehow become undesirable, even deplorable.

I would hope that you have recognized that in looking at a subsidy, we have to examine both its intention and its consequences. The intention of the milk subsidy for Bombay consumers was to ensure that city's citizens would have enough good quality milk to meet their needs — at a price they could afford. Whether that goal was achieved is of course questionable. What is not questionable is that the ready availability of inexpensive imported powder and other dairy commodities was crippling our own dairy industry, ensuring, if you will, that we never did gain a comparative advantage. It was because we recognized that the "side effects" of the subsidy were so pernicious, that when we began Operation Flood I insisted that all dairy commodity imports be canalized through the Indian Dairy Corporation, and that we then insisted that milk that was reconstituted using these commodities be sold at a price that was on a par with the price our farmers needed to build their own dairy enterprise.

At an early stage after our Independence, subsidies were seen as a way to accelerate development. Our planners seemed to believe that unless we reduced the cost of credit, farmers would not be able to invest in production. That unless we subsidized fertilizer, no farmer would use it. That unless we subsidized technology by creating a vast government-controlled scientific establishment, no research would be done. Unless we created an even vaster government-run extension service, no technology would reach our farmers. And, unless we paid for their shares and provided cheap financing, our farmers would never create and run cooperatives.

Regrettably there seems to be an unhappy rule of human behaviour: if something becomes available at less than the market price, those with power and influence will corner it and then turn round to earn a profit by selling it at the market price. This is the sad story of much of our subsidization of agriculture.

Yet, I began by suggesting that there is nothing inherently good, or bad, in subsidies. At times I have found myself bitterly opposing subsidies; at other times I have fought equally vigorously for them. It is not the subsidy itself that is either good or bad, it is the way it is conceived, the way it is used, and the results it produces.

I would argue that there is a need for subsidies, and that there will likely always be a need for subsidies.

There are sections of our population who cannot — through no fault of their own — afford the basic necessities of life: adequate food, shelter, clothing, medical care, education. The same is true of virtually every nation, no matter how "advanced."

There are national interests — first and foremost being food security — which may require that direct or indirect subsidies be employed to ensure that our needs are met. Such subsidies are an accepted policy tool in much of the world, and we need not feel reluctant to refuse to be an exception.

Having accepted that there is a need — indeed that there are often important reasons for subsidies — I would argue that great care should be exercised in their establishment, and even greater ruthlessness should be employed in ending them when they fail to meet their purpose.

In creating a subsidy **we must first be quite clear as to the purpose**. Subsidized milk may be justifiable if the objective is to ensure the adequate nutrition of those pregnant and nursing mothers, and of those children who cannot afford milk. It is not justifiable to subsidize the milk consumed by industrialists, professionals, senior bureaucrats and others whose incomes are sufficient to ensure adequate nutrition.

Once we have clearly specified the purpose, **we must carefully choose the ways in which we implement a subsidy.** That care must be employed to identify alternatives and to select that which is most likely to deliver the purpose at the least cost to those who must bear the cost.

We must also **exercise care in identifying and assessing the adverse affects** of a subsidy? If we limit the price of food, do we cripple our farmers, and our agriculture? In providing a subsidy are we creating a new vested interest that will, ultimately, consume the greater portion of the resources invested? Are we incurring what, today, is a minor cost but one which tomorrow is likely to balloon to gigantic proportions?

Last, **we must** carefully **assess whether a subsidy is, in fact, achieving its purpose**. If it is not, we must take the bull by the horns and end it — no matter how many pious politicians or bureaucrats argue that we are damaging the interests of the poor. In fact, the louder their howls, the more certain we can be that the subsidy is benefiting not the poor, but the intermediaries.

Let me conclude by offering the opinion that those who argue against subsidies because of their financial cost have missed the point. So too, those who believe that subsidies distort a "free market economy." As I have suggested there are instances when a subsidy is the proper

instrument to achieve an important objective. When it is not, its damage is not its cost, or its violation of "free market religious tenets", rather it is when the subsidy is used to strengthen the politico-bureaucratic nexus that has created the illusion that our nation has limited resources, and those can only be accessed through the beneficent intervention of the "broker". Resources are not created by governments; resources are created by people. The use of subsidies has seduced our people into the belief that it is only Government that can offer them salvation. That has been the curse of our nation, for it denies our greatest resource — our people, their wisdom, their energy and their courage.

Thank you.

XXVth Dairy Industry Conference
of the
Indian Dairy Association

Keynote Address

New Delhi
March 24, 1994

The Honorable Chief Minister, Shri Madan Lal Khurana, Dr. Aneja, distinguished guests, members of the Indian Dairy Association, and all who have come to participate in this, our Twenty-Fifth Dairy Industry Conference — I am privileged to have this opportunity to speak on this important occasion — our Silver Jubilee Industry Conference..

When Dr. Aneja asked me to deliver the Keynote Address, I could not help but recall speaking to earlier conferences of our industry. At our Fourteenth Conference in 1985, I commented that:

> The world is the same. As I stand here, I have the feeling that most of the faces are the same too. Even the speakers are the same! Shall we conclude, by the end of the Conference that the *problems* have also not changed? I hope not.

That was in 1985. Today, in 1994, the world is <u>not</u> the same. And I note with regret that many of the old familiar faces are gone, though I must also note that there are many new faces who represent the next generation of our industry. Last, the problems have indeed changed. And it is on that subject that I would like to share some thoughts.

When I spoke to the Seventh Conference in 1970, our dairy industry was struggling to survive. National per capita consumption of milk had dropped to 107 grams per day — less than 21 million tons of milk per annum were produced despite our having the largest national dairy herd in the world. In 1970 I reported with some pride that the modern dairies in our four metros had doubled their throughput to an average of 9 lakh litres. I didn't mention that the total milk marketed in other cities and towns was only a tenth of that figure. In that year we produced 22,400

tons of milk powder, and imported another 19,000 tons. Operation Flood was barely underway — 2.8 lakh members of some 1,588 village cooperatives in five milksheds poured an average of 5 lakh kilograms of milk per day. There were still shortages of quality milk and milk products. There were still queues at the milk booths in our cities. Our towns were yet to taste fresh, clean and wholesome milk. As was true with much of our agriculture, we dealt daily with the problems of scarcity, trying to stretch limited supplies to meet rapidly expanding demand.

Today everyone in this room can take pride in what has been achieved during the last twenty-five years. Our annual milk production of more than 60 million tons places us second in the world and we are close to a per capita availability of 200 grams per day -- and, as our Health Ministry hasn't done nearly as well with family planning as we have with production, we are providing milk to 35 crore more people today than we were in 1970.

Our metro dairies market 3.5 million litres per day, a figure increasingly dwarfed by our non-metro sales which now exceed 5 million litres.

From five milksheds, our cooperative structures now cover 170; membership has grown to 80 lakh women and men; and procurement has truly become a flood.

I feel proud of what the National Dairy Development Board and Operation Flood have contributed to this White Revolution. But I also feel proud of the efforts of a great many others of my countrymen and women. While we have not always agreed about ends and means, there can be no doubt about the contributions of our Ministry and its officers, of the state governments and their agencies, of voluntary organizations and others who have worked to build our national milk production. Most of all, we must all pay tribute to the women and men who manage our national herd. Poor -- often without access to the education, health services, finance and other facilities enjoyed by their counterparts around the world — our dairy farmers have transformed a national liability into a national

asset. It is they who have accepted the risks, they who have laboured from dawn 'til dusk, and they who have sacrificed. Unlettered and under-financed they have adopted new technologies. It is one thing to invest in better seeds — the return comes with the first harvest. It is quite another to invest in better livestock — the change takes years, and the progress is in steps, not strides. The true heroines and heroes of our rural transformation are not the grain or oilseed farmers, they are the women and men — mainly women — who have raised the productivity of our nation's cattle and buffalo.

In 1970 we faced the problems of scarcity -- with confidence. Today we face the problems of plenty. Pardon me if I say that feel less confident now than I did then.

Why do I feel less confident?

Success breeds self-satisfaction. Entrepreneurial spirit gives way to conservatism. We begin to believe that we know the answers, forgetting that in a period of change the questions may remain the same, but the answers will be different. At a time when we must challenge everything we have done, we become overconfident.

We are very close to producing more milk than our population can afford to consume. Please note, I did not say more milk than our population can consume — I said more than our population can afford to consume. Our Government was once quite generous: it was willing to subsidize the cost of imported oil for our traders and to ensure — at the cost of our dairy farmers — low priced milk to our urban consumers of every strata. Alas, we spent more than we earned and today we believe we can no longer afford even targeted programmes to ensure adequate nutrition to our rural and urban poor. And so, we are very close to producing more milk than our population can afford to consume.

That is not necessarily a permanent condition. Our middle class is growing, and with its increasing affluence comes increasing demand. If twenty crore of our fellow citizens decide to purchase the equivalent of 10

grams more milk and products per day, the annual increase in demand would be more than 7 lakh tons. And as well as we have done with artificial insemination and veterinary care, we have yet to produce cattle and buffalo that are immune to the effects of a poor monsoon. Let us not forget that we have enjoyed an almost unprecedented string of good monsoons.

I am confident, however, that we shall continue to meet increasing domestic demand — even as we develop new processes and products to expand that demand. That leads us to Global Opportunities, or, as I would prefer to say, Global Challenges.

Some years ago economists at the University of California Davis predicted that, by the turn of the century, India would become a major player in the world dairy market. There were those who scoffed. I did not. Nor, I suspect, did the multinationals who are now busy with plans to build dairies in India.

However, I am equally clear that the world is not waiting for India's milk and products. If we are to achieve our destiny, it will require commitment, sacrifice and unrelenting effort.

What is the scenario that is unfolding as we enter this new era of Indian dairying? First, there is a growing global market for milk and milk products. In 1992 the world traded $11 billion worth of milk, $ 9 billion in butter, and $ 3.5 billion in cheese. Asia and Africa accounted for imports worth $5.2 billion.

Today the lion's share of exports are dominated by Europe and Oceania. Much of the Asian and African market is shared by these two regions. However, a change is in the wind.

Whatever else you may think of Mr. Arthur Dunkel, he has pressed vigorously for a rapid end to producer subsidies. Today the price received by a European dairy farmer represents more than 60 percent Producer Subsidy Equivalent. Those subsidies have kept tens of thousands of dairy

farmers in business who, without support, would be uneconomical producers. If the Dunkel draft is approved, there will be an enormous shake-out in the European, North American and Australian dairy industries. Excess supply and administered prices will give way to the forces of demand and free market prices. In some markets, such as the United States, supported prices are already too high to permit competition in the international arena, which is why that government introduced export assistance programmes — having driven commodity prices up with subsidies, the government then bought them down with more subsidies!

There are only two major producing nations that don't subsidize their dairy farmers: New Zealand and India. Our prices — already competitive — will become increasingly attractive in the world market.

However, neither is the world waiting for our milk and products, nor are the advanced dairying nations going to sit idly by while we gobble up their markets. There are already indications that producer subsidies will be replaced by processor subsidies, subsidies that will be passed back to producers to maintain the status quo. I trust our Government is alert to this threat.

The other threat we face is attacks on our quality, on our reliability, and on our integrity. And there are those in our industry whose performance lends credence to such attacks. The response to these attacks is not rhetoric, the response is action.

We have argued — against increasing resistance -- that strict quality controls must be applied to every gram of dairy product exported from this country. Every successful exporting nation has applied such controls. They are all the more essential with foods which are subject to the strictest importing nation controls and where disguised tariffs are applied by setting prohibitively difficult standards. Unless we ensure our quality, a single bad shipment can and will be used to "prove" that Indian dairy products are unacceptable!

I believe that it is both appropriate and consistent with the NDDB's mandate that we should undertake the responsibility for export quality control. However, we would also be willing to consider an independent and voluntary authority established and financed by all exporters *provided that Government ensured that no dairy products were exported without the approval of that authority.*

Quality is not simply a matter of ensuring that what leaves the country meets the highest standards. Quality goes back to the producers and their animals. The days when we can simply collect milk without regard to the health and environment of the animal that produced it are fast fading. Every link in the chain — from the animal to the factory to the retail outlet or export wharf -- must be part of a total quality process.

Our competitors know what their customers want — they know the milk preferred by a Malaysian, the cheese favoured in Oman, the butter Kenyans find best. They know how to package those products to attract local buyers. They know the regulations that govern products. They have worked with and through local marketing channels. They know each substitute for every product and how to ensure that they remain competitive. They know how to advertise and reach the hearts and minds of buyers from Zimbabwe to Zamboanga. They have the support of professional and experienced commercial offices financed by their own governments. They have the financing of their own domestic industry. Right now, we only have a dream.

That dream will remain a dream unless we can work together. Those of us who want to see our nation become a major player in the international dairy market must agree to common objectives; we must work together to build upon our mutual strengths and overcome our weaknesses; we must share a strategy and a plan; we must allocate responsibility and, once we have accepted responsibility we must all meet our commitments, whatever be the costs; we must share risks as well as rewards; and we must be willing to finance the investments necessary to build international markets. There is no other way.

Let me be quite clear: the future of our industry depends on finding new markets. If we fail to do so, our industry will stagnate as supply swamps demand. Prices will drop, investment will decline, and the gains of the last two decades will erode.

To move forward we need to discard much of the past. We can no longer afford managers who are administrators, or those whose sole qualification is seniority. We can no longer run businesses without the marketing expertise, the financial acumen and the professional skills of our toughest competitors. We can no longer tolerate waste, inefficiency, and worse. If we are to seize the day, we must raise ourselves to the next level and beat our competition with our talent, with our ingenuity and our commitment.

For our cooperatives, the luxury of competing brands is simply not affordable in the international market. There is no option but a single Indian dairy cooperative brand, a brand that will mean the highest standard of quality everywhere in the world.

And for our cooperatives, we must remember our greatest strength: the individual small producers who have brought us to where we are today. Have no doubts: the multinationals will come to India. Locating production where costs are lowest is a fundamental strategy of these firms; just as fundamental as abandoning those facilities when prices rise. The economics of our business is very sensitive to transport costs. Each MNC that enters our dairy industry will seek to decrease those by encouraging large farmers — mass production, not production by the masses.

Our commitment is to more than the "bottom line." Or rather, our bottom line is our people. Value for us is not dividends paid to stockholders in Geneva, London or New York. Value is the quality of life of lakhs of farm families. It is those farm families who have created the first miracle of Indian dairying, transforming a stagnant industry into one that stands poised to take on the world. It is those same farm families who will

create the second miracle — India as the world's leading dairying nation. We must never forget them.

Thank you.

COOPERATIVES AND THE NEW ECONOMIC POLICIES

NATIONAL COOPERATIVE UNION OF INDIA
EXPERT CONSULTATION
AND
COOPERATIVE CONFERENCE
ON
NEW ECONOMIC POLICIES AND COOPERATIVES

Bangalore
September 1, 1994

Mr. Chairman, NCUI President Vishwanathan, distinguished guests and fellow cooperators...

May I first congratulate the National Cooperative Union of India for taking the initiative to sponsor this conference on the New Economic Policies and Cooperatives. If I may be pardoned for saying so, it is long overdue. It is a matter of some encouragement to all of us that a great many distinguished political leaders, civil servants and public-minded citizens have chosen to participate. I am grateful that this dairyman from a small town in Gujarat has been included amongst such luminaries. I certainly welcome the chance to share with you some of the thoughts I have on the subject of cooperation, thoughts which are based on some modest experience in the field.

While I welcome the opportunity to be associated with this conference, I must begin by expressing a reservation: It has been stated that the purpose of this conclave is to develop a “comprehensive action plan” for cooperatives. I fear that such an action plan would miss the point.

The point, quite simply, is that cooperation in this country has, from the beginning, been the victim of “action plans”. You will recall that the earliest cooperative laws were designed to create a vehicle for rural credit, an attempt by our erstwhile colonial rulers to deal with a law and order problem — the uprisings of peasants against those who used money lending to oppress them.

Over the years, each succeeding government of colonial and Independent India has defined its own way of "using" cooperatives. Even today, I fear, the common view of cooperatives is that they are crippled institutions that must somehow be made right by the benign and wise actions of those who occupy the seats of power. Please pardon me if I argue that it is such wise and benign actions that have in fact crippled these institutions in the past.

As evidence for my point of view I would argue that those cooperatives that have succeeded — those that we laud when we speak of the potential of cooperation — are the very ones that have energetically defended their autonomy. In a word, that autonomy is their right to do what they feel they ought to do, in the ways they feel were best suited to their needs. The sugar cooperatives, the employee thrift cooperatives, the urban cooperative banks and, if I may say so, some of our dairy cooperatives have succeeded not because they benefited from someone's action plan, but because they met the needs of their members.

Let me make clear, that I am not denying the need for action. Cooperatives face a very critical moment, one which will determine whether we survive and thrive, or wither away — at least for the present.

As the organizers of this convention have pointed out, cooperatives must now function in an atmosphere of "competition, liberalization and globalization". Let us think for a moment about what those words really mean.

Competition, I am told, is the essence of the "market". It would seem that Adam Smith's invisible hand is to become quite visible in India. We will no longer protect and defend the young against the mature, the weak against the strong, the desirable against the undesirable, the decent against the rogue. We will let the market decide who succeeds and who fails.

Now, I am an old-fashioned person and I was brought up to believe that Independent India was to be a humane society, one guided by noble

principles. Markets are not noble. They do not allocate resources on the basis of justice, but crudely on the basis of price. No civilized society entrusts its destiny to the market. Yet, today we seem to be moving in that direction.

What does competition mean for the cooperative? In one sense it is healthy: the spirit rises, the energies of leaders and professionals are galvanized, innovation is spurred. Certainly we can and will compete. But how fair is that competition? Companies are registered and regulated under The Companies Act, a law that in spirit and practice respects the rights of the owner and that ensures due process. Our cooperatives must operate under archaic, colonial Cooperative Legislation in which the rights of the owners — the members — are observed in the breach and in which due process finds no place.

Our competitor takes a decision to invest or divest, to buy or sell, to enter a new territory or product, or to abandon it. If he has acted in good faith his auditors so certify and he carries on. If we wish to invest, we must seek the Registrar's approval; so too if we wish to divest. We cannot expand our membership beyond the confines of a geographical area. If we wish to diversify, a bureaucrat with no experience in commerce may challenge us. And our audit is done by individuals whose qualifications fall far short of those found in even the least able of our Chartered Accountants. Is such competition fair?

What does "liberalization" mean? Liberalization, it seems, means the State abandoning its right and responsibility to make choices about what form of enterprise best suits the needs of the public at large. It also means abandoning the right and responsibility of Government to enter into markets to support or constrain prices. It means an end to limitations on the free entry of capital, goods and services, irrespective of whether these limits are consistent with broader national goals. It is curious that when virtually every country in the so-called developed world regularly employs such policies, they are somehow inappropriate for India.

I can also tell you something that liberalization does not mean: it does not mean an end to the myriad rules and regulations that hamstring any honest enterprise. Our bureaucrats and their masters have made it amply clear that they do not intend to forgo the modest revenues enjoyed by allowing exceptions to the regulations they create and administer. What that means is that the cooperative that cannot and will not grease the machinery, faces still another competitive disadvantage.

Globalization, quite simply, is the internationalization of our competition. While there are those who argue that such change opens the door for India to compete abroad, the fact of the matter is that -- indignant protestations of Government notwithstanding -- globalization means hamburgers, pizzas, colas, fancy clothes, new movies and CDs to titillate our elite. Globalization can ultimately mean that our wheat farmers labour for a privately-held company run by bandicoots in Minnesota while the women who raise and feed our milch animals earn dividends for stockholders in Geneva.

This competition, liberalization and globalization that we speak so grandly about is the prescription of the economists of North America and Europe, economists whom I cannot believe are purely disinterested practitioners of their trade.

Now, while I am not an economist, I believe that I can state with some assurance that there are three preconditions for economic growth: first, and foremost, an educated citizenry; second, a strong, vital and growing agriculture; and third, a government that maintains at least a minimal degree of stability and integrity. I cannot say that the prescriptions we are following are consistent with achieving any of those conditions.

Today, almost two generations after Independence, a frightening proportion of our citizens are uneducated and undereducated.

In my judgment, the policies that we are pursuing today will undermine our agricultural potential, leaving us with a fragile foundation for the economy as a whole.

And the stability of Government depends on the belief of its people that there can and will be future benefits. Our rural population has been asked to sacrifice for 47 years. How much longer will they wait for the fruits that have been promised?

In this rather bleak scenario, cooperatives are not the only answer. But they are certainly part of the answer. Cooperatives that are led by vigorous, honest and committed leaders and managed by diligent and capable professionals of integrity can not only strengthen our agricultural base, they can contribute to many other areas of our national life. And it is to the conditions for contribution that I now turn.

Let me begin with an illustration. Our agriculture, I am told, will need to deliver something like Rs. 30,000 crores worth of credit within the next two or three years. This is roughly double the amount now loaned by our cooperatives and banks and so, as you might imagine, the mandarins who concern themselves with such issues are rather ill at ease. No doubt they will prescribe that the Reserve Bank provide some money to NABARD and that NABARD in turn will provide it to State Cooperative Banks and so on until after having been passed on several times these funds ultimately reach the farmers who need them. Now you and I all know what happens in between. And we all know that what reaches the farmer is far less than he needs. And far later than he needs it. Yet despite all the evidence that this approach doesn't work, we will gear ourselves up to prove, once again, that it doesn't. Then we will blame the cooperatives, put more money into Rural Regional Banks and other such ill-advised experiments, and try once more.

Now what I haven't mentioned is that even though the decisions are a forgone conclusion, it will take considerable investment of manpower and money to reach those conclusions. Committees of eminent men and women from various walks of life, and from different departments of

Government, will sit in teak-paneled rooms to discuss the urgency of the problem. Small armies of "experts" will be asked to study various dimensions of the problem. Some — as Professor Khusro did a while back — will identify what is actually happening; they will be ignored. Others will suggest innovative ways of doing what is already being done — some new "integrated" and "sustainable" programme, an "action plan", a training scheme. Some of their recommendations will be adopted. But basically the end result will be the same: raising and passing money through several tiers of a system run by generalist administrators who will be long gone by the time the next harvest is in the market.

I say: the essence of cooperation is self-reliance. Where is self-reliance in all of these programmes and policies and schemes?

"Oh", you reply, "how can the poor be self-reliant? We are speaking of the weaker sections. They cannot save and, when they borrow they cannot be expected to repay. No, we must forget about self-reliance."

To that I reply in turn: what you have done for nearly five decades has failed. Why not try self-reliance?

There are something like 90,000 primary agricultural cooperatives in India today. They have a membership that is estimated at something like 7 crores. Now, let us admit that many of those members are nothing of the kind. So, we will work with a more modest assumption: that is that there are 3 crore members.

Now, if we want to raise Rs. 30,000 crores from 3 crore people, how much is that per individual? That's easy -- it is Rs. 10,000.

How much annually would those 3 crore members have had to save over the last five years in order to have Rs. 10,000 in their cooperative savings account today? With a modest interest rate of 8.5percent, they would have had to save an average of only Rs. 1,660 per year, slightly more than Rs. 100 per month.

Now I am well aware that for many of our rural producers and artisans, saving Rs. 100 per month is beyond their comprehension, much less their capacity. But for many others, Rs. 100 per month is a modest amount, while it is manageable for quite a considerable portion of our population. The point is that our policies and programmes have actively discouraged any such self-reliance. Where our rural cooperatives could, over the last four decades, have become sources of strength, they have become invalids. Instead of recognizing that the cure has caused the illness, we prescribe more of the same — dependence not self-reliance. In doing so, we have perpetuated the most vicious myth of all — that resources come from Government, not from our people themselves.

The other thing we have denied to our cooperatives is the right to hold their leaders and professional managers accountable. The essence of the cooperative system is democratic control — not because it is a laudable ideal, but because it is what ensures that managers adhere to the policies and plans formulated by a board, and because the board that does not perform in the interests of the members can be replaced. By denying democratic control to members, by creating and encouraging cadres of cooperative officials who are not accountable to a managing committee or board, and by placing civil servants in charge of apex cooperatives, we have undermined the fundamental integrity of the cooperative system of accountability. Please do not tell me that cooperatives cannot employ competent professionals: even village cooperatives can and will do so if given their freedom.

So, let us not once again commit the folly of devising for cooperatives “action plans” for their survival. Let us not again prescribe what cooperatives must do. Let us, instead, restore cooperatives to their owners.

There are, however, several tasks that those gathered here should pursue, with all the diligence, energy and commitment that we can muster. I know that normally when sessions like this are held with eminent policy makers, the practice is to prepare a submission of various benefits that cooperatives desire from Government. May I suggest that in

our recommendations, we ought give more attention to those things that we don't want from Government.

A National Policy on Cooperation

It is a matter of fact — though certainly curious — that, till date, the Government of India has never enunciated a national policy on cooperation. One hears that there are those who are presently quite busy at filling this lacuna. However, I would recommend that before things go too far, this body request Government to carefully consider what is, and what is not, a policy.

In my view, a policy is a broad statement of intent, briefly buttressed with the core rationale for pursuing the course defined. It may specify some actions that are deemed particularly important to achieving that intent. A policy is not a detailed prescription, nor an enumeration of specific steps to be taken. May I suggest, therefore, that this body consider recommending a policy to Government that is quite simple:

⇒ "Recognizing that Cooperatives serve national objectives only when they first serve the needs of their owners, and

⇒ "Recognizing that when any cooperative institution becomes an instrument of state policy it ceases to respond to its owners, and

⇒ "Recognizing that successful cooperatives provide the first and best way in which to ensure a place at the national bargaining table for crores of small farmers, artisans, husbandrymen and women, fisher folk and labourers of the country, and

⇒ "Recognizing that self-managed, self-reliant cooperative enterprise is an essential school for the

development of the new generation of leadership at every level of the national polity…

⇒ “Government commits itself to support the rapid transition from a state-dominated and controlled structure to a cooperative movement that is truly owned, governed and controlled by its members, by…

⇒ “Enacting new enabling legislation in the forms of a new Multi-State Cooperative Act that is in conformity with the Choudhary Brahm Perkash Committee Model Act and through amendment of The Companies Act to enable registration of multi-state cooperative companies of agricultural producers, rural artisans, and labour, and

⇒ “Ensuring that legislation and regulation facilitate rapid redemption of government equity and withdrawal of government personnel from cooperatives at every level, and

⇒ “Modifying labour legislation to ensure that meeting the needs of one category of citizens — the employee — is not achieved at the expense of another category of citizens — the rural producer, and

⇒ “By devising and enacting a system of incentives to permit capital formation by cooperative societies and cooperative companies that operate in conformity with recognized principles of cooperation.”

Let me speak briefly about some of the elements of such a policy:

Cooperative Legislation

It is now widely recognized that our cooperative laws ill suit the requirements of genuine cooperation. While we may be encouraged that the Minister for Agriculture and Cooperation has publicly committed himself to the amendment of the Multi-State Cooperative Act, that legislation has as yet not reached the floor of Parliament. Regrettably, the complete and final version has also not been widely disseminated, discussed and debated by cooperators prior to its consideration by Parliament. We are of the view that the Choudhary Brahm Perkash Committee Model Act provides the foundation for sensible enabling legislation and would recommend that it serve as the basis for cooperative legislation at the Centre and in the States. However, every serious cooperator must recognise that such legislation will not be granted by a benevolent Government; rather, it must be demanded by a large constituency, those for whom it is a matter of vital importance — the crores of cooperative members in this country. It is equally important to recognise that the enactment of such legislation is not an end in itself: once won, good legislation must be protected and defended.

If I may, let me suggest that cooperative legislation should:

- Permit the practice of cooperative principles without let or hindrance;
- Respect the constitutional rights of the member, just as other legislation protects other owners;
- Prescribe only when it is absolutely essential to the public good, leaving all else to the bye-laws and the wisdom of the owners;
- Ensure that the links between responsibility, authority and accountability are clear and unbroken;
- Recognise that there are already other laws to govern any wrongs that might be committed by a cooperative, its leaders, professionals or members and that there is no need to replace or duplicate these.

Let me briefly touch upon the proposal to include Cooperative Companies under the Companies Act. Quite frankly I have been

astounded by the reaction of many cooperators to what, at most, would simply provide a voluntary option to register as a cooperative or as a cooperative company. All manner of means have been raised to derail such a legislation, including much misinformation and even disinformation.

It was and is my view that if cooperatives are to compete with companies, then they ought to be able to choose to enjoy the same legislative and regulatory environment as their competitors. This is the case in such diverse countries as the United States, New Zealand, Zimbabwe and any number of other nations. Their cooperatives are no less committed to the principles of cooperation than ours; and, it could be argued, that they are better able to practice cooperation than are we. I would recommend to those of you gathered here that you seriously reconsider this matter and endorse the view that any cooperative, existing or newly formed, be provided with the choice to register as a multi-state cooperative company under the Companies Act.

Let me mention that the state of Madhya Pradesh has recently amended its act and brought about several positive changes. It is an important step — but only a small step — toward good cooperative law in that state. Some even more modest improvements have been incorporated in the Uttar Pradesh. Act. We can only hope that they will continue to move forward. I understand that an independent commission is examining the Cooperative Act of Andhra Pradesh. We should all closely examine and carefully consider their findings.

Labour and Cooperatives

Not long ago a farmer in Kheda District was awakened by a great deal of noise in his neighbour's house. When asked about the cause, his neighbour informed him that he and his family were preparing to depart for the Andaman Islands. The farmer asked and was told how distant the Andamans were and wondered aloud how his neighbour and his family could afford such a journey. The neighbour responded that his employer, the Kaira District Cooperative Milk Producers' Union was paying under the

Leave Travel Concession. The farmer responded, “Then I am paying for your trip to the Andamans.” And so he was.

I mention this because in the years since Independence, in our desire to ensure that our workers are not exploited, we have pushed the pendulum far to the other extreme. Today, the wage earner and the salaried are a privileged class. Those who labour in the fields, on the ocean, in the forests or behind a loom are the new exploited class. For them there is no Leave Travel Concession, no Bonus, no Provident Fund, no Gratuity, no Health Insurance Scheme. And, if rewards are to be linked to increased productivity, then compare the productivity or our farmers with that of our nationalized bank employees, or those who run our railways, or the lakhs of employees of public sector industries!

Labour should not be exploited. Nor should it exploit. It is long since time that we re-examined the applicability of labour laws to cooperatives, both small and large.

Capital Formation

When asked why Government involves itself in cooperatives, those who claim to be the friends, philosophers and guides to our cooperative explain their “involvement” as a necessary consequence of the large sums of Government money that they must protect. Whatever be the merits of such an argument, the fact of the matter is that even the best cooperatives find it difficult to build a strong capital base under current tax laws.

I recognise and appreciate the tax concessions that cooperatives do receive. It may not be the 100 percent immunity from taxation that, for example, cooperatives in the United States enjoy, but it is an advantage. However, a few simple changes in tax laws for cooperatives would enable us to build our equity base, ending the need for the infusions of capital that Government now provides.

Government now taxes cooperatives, then hands the money back as equity and grants. Let us simply ask Government to eliminate their role as the middleman!

Cooperative Leadership

Gathered here today are men and women who are cooperative leaders as well as others who claim to be so. I have spoken about the need for a new national cooperative policy, for new laws, for certain considerations with respect to labour and taxation laws. All of that, I fear, would go for naught unless the quality of our cooperative leadership improves.

Let me be quite blunt. Cooperatives in this country have a very bad name with the majority of our citizens. If we step out of this hall and ask the man or woman on the street what they think of cooperatives, quite likely they will ask if we are talking about "*chor*-operatives." The cooperative "leader" is generally seen as a corrupt, short-sighted individual whose concern is with patronage, nepotism and making money. There are honourable exceptions. I was privileged to work with one. Shri Tribhuvandas Patel, who died recently, was a man of character, ability and commitment. When the dairy cooperative members of Kheda District presented him with a large sum on his retirement as their Chairman as a measure of their deep appreciation for his years of selfless service, he donated it to a foundation to help improve the health of the people of the district. When IFFCO gave him an award as their Cooperator of the Year, he refused air fare and traveled second class in order not to waste the farmers' money. Every decision he took was on its merits. And merit for him boiled down to whether it benefited the member.

I know there are other leaders who have sacrificed, who have given selflessly of themselves, and who have been honourable in all that they did. But there have been far too few such leaders.

We cannot ask for a national policy on cooperatives unless we are prepared to sacrifice our own interests to build a strong cooperative movement.

We must support the demand for legislation that frees cooperatives with our commitment to serve cooperatives with honesty in all that we do.

The future of cooperation rests not on action plans, nor on speeches and resolutions. It rests on the shoulders of each of you, and those of the tens of thousands of other leaders who hold the trust of cooperative members in this country. Today, as never before, cooperatives are important to our people and to our nation. Cooperatives can help ensure that our economy is built on a strong agricultural foundation. Cooperatives can contribute to the education of our citizenry. And cooperatives can help develop a new generation of leaders who are able to rise above considerations of self, community, caste, religion and political party to build a nation that fulfills its destiny. But this promise can only be achieved if each of us commits himself or herself to the cause.

And so my final recommendation is that each of us pledge to live the cooperative principles that we espouse. That through our deeds we show the nation that cooperation can succeed. That through our achievements we show the nation that cooperation will succeed. Because — and I say this with great seriousness — for the future of India, cooperation must succeed.

Thank you.

24th International Dairy Congress

Should dairying be encouraged in developing countries?

Melbourne, Australia
September 21, 1994

Mr. Chairman, fellow dairymen and dairywomen, distinguished guests, ladies and gentlemen...

To be asked to speak to the International Dairy Congress is always an honour. Our industry has a great many distinguished men and women and to find oneself among them is a matter of considerable satisfaction to this dairyman from a small town in India.

Yet, I must admit that my pleasure at having been invited to speak today was somewhat diminished by the subject I was asked to address: "Should dairying be encouraged in developing countries?" It is not a subject that I have chosen. Nor one that I would choose! When I first read it I wondered whether it was ignorance, or even arrogance on the part of those responsible to have assigned this subject to me. Reflecting, however, it occurred to me that possibly I had been asked to speak to this subject in order to inform those amongst us who may have developed the rather curious notion that the suggested topic reflects.

Let me speak for a moment about the "credentials" that might qualify me to speak about dairying in the South.

I come from a country, India, that is now the second largest milk producer in the world, a rank that — while it may have been accelerated by the problems faced by the erstwhile Soviet Union — is nonetheless a matter of considerable satisfaction to those of us who have been involved in our industry for the 47 years since Independence. I might add that, should milk production in India and the United States continue to increase at the same rate as during the last five years, we would expect to attain the first rank in about a decade. Let me say that we fully intend to achieve that goal.

I also stand before you as the representative of eight million dairy farmers and their families — considerably in excess of 40 million people. To put the numbers in perspective, our membership is more than twice the population of Australia and twelve times that of New Zealand.

Those eight million dairy farmers — many of them women — pour their milk every morning and evening in more than 65,000 cooperatives throughout India. The milk is collected by trucks and transported to cooperative dairies. Some of those dairies now handle more than 1 million litres of milk every day. Fluid milk moves from the dairies to towns, cities and our major metropolitan areas: several million litres collected from villages that in some cases do not even enjoy a paved road to connect them to the rest of their district. The dairies also produce products: last year more than 165,000 tonnes of powder — or almost as much as is produced by Australia. We also manufacture butter, baby foods, chocolates, our own Indian sweets, and a variety of other value-added products.

We have come a long way. When I first arrived in Anand, a small town in Western India, shortly after our Independence, the Indian dairy industry was neither Indian, nor an industry. There were, of course, one or two small creameries that produced butter. And the military ran dairy farms to meet the needs of its soldiers. But most of the milk consumed in our cities was produced there: tens of thousands of cattle and buffaloes were kept in Delhi, Bombay, Calcutta, Madras and in small cities and towns. They were brought there as pregnant heifers. Their calves, which had no value to the city cattle keepers, were allowed to die. So too, once they had completed a lactation, the cattle were destroyed. In this way our national genetic wealth was systematically devastated. The result was predictable. Milk production stagnated while our population grew. Per capita availability dropped precipitously. By the mid-1960s, queues for rationed milk were the rule in our towns and cities. And the product people bought was usually not much more than skim milk.

Products were available for those who could afford them. Cheese, butter and baby food from New Zealand, England and Australia. The

Bombay Milk Scheme, created to ensure quality milk to that city's consumers, was fed with a steady supply of imported milk powder.

At the time we began our Operation Flood, the daily per capita availability of milk had dropped to 106 grams.

What was this Operation Flood? Well, in the midst of the disarray of Indian dairying in the 1950s and 1960s there was one rather extraordinary success: the Kaira District Cooperative Milk Producers' Union, or *AMUL* as it was — and is — better known.

AMUL was started during the mid-1940s when the dairy farmers of Kaira District decided that they would no longer suffer exploitation at the hands of milk vendors, the local creamery, and the Bombay Milk Scheme. At the suggestion of Sardar Vallabhbhai Patel, one of India's great leaders, the farmers formed a cooperative union: it began with two societies and a daily collection of no more than 200 litres of milk. The elected chairman of the cooperative was Mr. Tribhuvandas Patel, a man of great courage, wisdom and commitment. He was able to convince farmers throughout the district to organise cooperatives and to support AMUL.

It was my good fortune to have been assigned — much against my wishes — to a government research dairy in Anand, the town where *AMUL* had been established. My assignment was the prescribed penance for having been sent by the Government of India to the United States for graduate studies. It was my even greater good fortune to have come in contact with Mr. Tribhuvandas Patel who gradually involved me in the struggles of his cooperative union. Finally, when I was preparing to leave Anand at the end of my indentured service, he prevailed on me to stay — first for a month, then another, and another. That was more than forty years ago and I have never left.

As I said, *AMUL*'s performance stood out amongst the failures of India's dairying. Government milk supply schemes, Intensive Cattle Development Programmes and the like had all failed to arrest the rapid decline.

It was during this period, when our dairy industry was in the depths of despair, that our then Prime Minister, the late Shri Lal Bahadur Shastri, visited Anand to inaugurate our new cattle feed plant — then, as now, the best in the country. Being a wise and shrewd man, the Prime Minister decided to spend a night in a village of Kaira District to investigate, for himself, the reasons why AMUL had succeeded when all other programmes seemed to fail. The next day he called me aside. "Kurien", he said, "I see nothing special in this District. I had expected to see a land of milk and honey, green pastures and streams flowing with fresh water. Yet, your landscape is brown and dry, just as it is in much of India. Your buffalo, too, are nothing special. They certainly aren't as fine as the Murrah of Uttar Pradesh. And, while your farmers are hard working and decent folk — just as they are everywhere — they certainly are not as industrious or energetic as those in Punjab. What then", the Prime Minister asked, "is the secret of your success?"

There is little doubt that he knew what that secret was. Ours was a business in which the producers themselves were in control of the resources they created. We, the professionals who worked for them, were accountable. If we failed to meet their needs — whether for a good price for their milk, or for nutritious feed, for veterinary services, for fodder seed — then they could find someone else who would. The fact that we were a cooperative, not a government scheme, was why we had succeeded while others failed.

The Prime Minister was so impressed — both by what we had achieved and by the broader dimensions of our experience — that he asked us to replicate Anand in other milksheds of India. It was in this way that the National Dairy Development Board was created. After some starts and stops, we also discovered a way in which we could accelerate that effort. As you may recall, during the 1960s, a mountain of dairy commodities began to grow in Europe. Had that mountain been sold to my country at concessional rates, it would have tolled the death knell of our dairy industry. We were fortunate, however, to anticipate that possibility and, with the help of some very far-sighted individuals in our

Government and in the European Community, we were able to evolve a programme in which donated commodities were used to finance Operation Flood.

We received donated milk powder and butter oil, reconstituted them into fluid milk, and used this milk to build markets in our major metropolitan areas. The donated commodities "primed the pump", so to speak. We ensured that this milk was sold at a price equivalent to that our farmers would receive for their own milk, taking care not to depress the market on which they depended. The money earned from the sale of milk was then invested in building the cooperative infrastructure that, today, has transformed India's dairy industry from a basket case to a potential player in the international dairy market.

I have mentioned something of our history, because I think it is relevant to the question of whether dairying should be encouraged in the developing world.

Early in *AMUL*'s history we faced a problem during the flush winter season when the Bombay Milk Scheme would refuse to take our milk. They preferred to use imported powder which was available at a lower price, increasing their profits. In those days some Government Milk Schemes actually made profits!

When we decided to build a powder plant to conserve our own milk for recombination in the summer lean season, foreign experts said it wouldn't be possible to make powder from buffalo milk! I believed then, and believe now, that they were intentionally discouraging dairying in the developing world — and maintaining a market for their own powder. However, we didn't let them discourage us. We built the plant and have been making powder ever since.

Later, the Government of India requested one of the multinationals doing business in India to make condensed milk in our country. The reply was that it was that it wouldn't be possible to make condensed milk "under Indian conditions". What they meant was that their profits were

greater shipping condensed milk to India from Europe. We took up the challenge and made condensed milk "under Indian conditions."

When Operation Flood was proposed, there were those in Europe who opposed it. They had the prescience to see that were we to succeed, it would mean the closing of a market — perhaps even the creation of a competitor. But, as I said, there were men and women of good will who stood by us.

Even during the last several years, Operation Flood has been attacked by institutes and agencies in Europe and North America whose arguments are so unfounded in fact, and whose persistent refusal to see first hand what they criticise from afar, leads us to believe that the interests they actually represent are those who would prefer to see us dependent on the dairy industries of other nations.

More recently we have encountered a rising criticism of our efforts to develop Indian agriculture. Ironically, it comes from the very international financial institutions and bilateral donor agencies that, in the past, have helped to finance that development. The refrain we have begun to hear over and over again is that "India lacks a comparative advantage" in this, or in that. I suspect that we may hear this same tune from other speakers on today's subject.

Now, I have been told that the term "comparative advantage" has a very distinguished lineage in the field of economics, tracing its history back to such luminaries as Ricardo, Malthus and Adam Smith. However, there is a difference in today's use of the term: then it was descriptive; now it is prescriptive.

When early economists attempted to understand why one country excelled at producing one commodity or product, while another did miserably, they discovered a group of factors in the first which they called "comparative advantage." I don't believe, however, that they meant that such a comparative advantage was a permanent condition. Certainly no one of a rational bent of mine could draw such a conclusion, much less

attribute the types of mystical qualities that today's economists seem to attribute to "comparative advantage". It as though they see one country producing soyabeans at a price lower than any other and pronounce, "Thus it is, and forever more shall be. Amen."

If comparative advantage were such a wondrous thing, then I suspect that Britain would still be the world's steel maker, all our potatoes would come from Peru, the United States would dominate the international automobile industry, and coals would still come from Newcastle.

I have quite a different view of comparative advantage. It is earned, not ascribed. When a nation's scientists, producers and businessmen invest their ingenuity, their sweat, their blood and their tears, they can shift a product or a commodity from comparative disadvantage to comparative advantage. Why would they choose to do so? I suspect for any number of reasons. Let me try to elaborate a few.

Sometimes a commodity, or a product, is particularly important to a nation and its people. Milk and milk products, for example, have been very important to my nation and our people for more than 5,000 years. Even our earliest religious teachings, the *Vedas* and *Upanishads*, give prominence to milk and to its source. Throughout the country, milk, *ghee* and sweets made from milk are important to our diets.

Many countries have also determined, as a matter of national policy, to achieve self-sufficiency in this, that or the other thing. I believe, for example, that the United States maintains the capacity for self-sufficiency in sugar, even though it is one of the least efficient sugar producers in the world. The rather massive systems of subsidies that have been erected in North America, Japan and the European Community are all testimony to such policies. There is little talk of comparative advantage when the North American dairy farmer's prices are set. Nor when oilseed growers in Europe are bargaining for support. In fact, I suspect many countries invest more in agricultural subsidies than my country invests in agriculture! It is sad, therefore, that in negotiating the Uruguay Round,

the Cairns Group's argument for elimination of such subsidies was ultimately rejected.

There are other reasons, perhaps more subtle, that argue in favour of building a comparative advantage. I have spoken of the 8 million women and men who comprise the membership of our dairy cooperatives. Rural India is not yet a land of plenty. Our soils are not yet restored to fertility; much of our land depends on the monsoon for water; the amounts our farmers can invest in seed, fertilizer and plant protection is limited. Our population has grown, leaving far more people to work the same amount of land. Unemployment and underemployment are genuine problems in our rural areas. Incomes are small, and often come only at harvest. In this context, dairying not only provides a regular — daily or weekly — source of income for millions of families, it is a significant provider of rural employment. There are few other enterprises that offer its advantages in this respect.

The Indian village is the home of tradition. Some -- in fact many — of our traditions have an important and beneficial role in the lives of our people. Others, however, stand in the way of health, productivity, and a better life. I would like to think that our more than 65,000 dairy cooperatives have played an important role in moving our rural women and men toward the future —

> When a veterinary doctor saves a buffalo that, in years past, would have been allowed to die, treated only by superstition, does it not encourage our village people to think of their own medical treatment?
>
> The dairy cooperative is constructed of modern materials — often the first building in a village to be so — and it is regularly swept and cleaned with disinfectant. Does not this lesson in maintaining elementary hygiene help people to understand the importance of cleanliness in their own homes?

> When the women of a village visit their cooperative union and are instructed in the reasons for artificial insemination, does it not contribute to their own understanding of reproduction, and of the means to control it?
>
> When those same women visit a cattle feed plant and listen to a nutritionist talk about the importance of balanced diets — particularly for pregnant animals — does it not teach a lesson about the importance of their own nutrition when pregnant?
>
> When a so-called low caste person stands in line in front of a *Brahmin* to pour milk, because she arrived first, when a woman stands in front of a man, when a labourer stands in front of a landowner, do not the differences that divide them get submerged in the milk they pour into the same can?

Ours is a nation moving from a colonial past toward a modern, democratic future. And, despite close to 50 years of Independence, our Parliamentary democracy — and I suspect that of many other nations, both young and old — stands on a very fragile base. It is only by building a plurality of democratic institutions at every level of our society that we create the rich, strong foundation for Parliamentary democracy at the state and national levels. Dairy cooperatives, which restore to producers control over their own resources -- where they must make difficult choices on issues that, for example, require them to trade present returns for future value — provide an important daily lesson in democracy. In our case that lesson is all the more important because the majority of our dairy farmers are women. More and more these women are taking an active role in the governance of their cooperatives, drawing this often neglected half of our population into the mainstream.

These, then, are the reasons why dairying for India has been a “comparative advantage”.

I recognise that with the GATT agreement there is rising uncertainty in our dairy industries. Though the zero option was rejected, subsidies will be reduced. New technologies will add a new dimension to the competition for markets. In this context, I am not surprised that more and more of my fellow dairymen will ask the question, "Should dairying be encouraged in the developing nations?"

The concern is an obvious one: will not success in each developing country reduce markets further? Will not today's stripling dairy industry become tomorrow's cut-throat competitor? I know, for example, that some of the nations represented here today were more than a little concerned when we decided to export a token amount of milk powder.

I think that there are answers to these concerns, answers that suggest that the concerns are very much misplaced.

First, in much of the South, the situation is similar to ours in India. Pressure of people on land means that the first and foremost priority is feeding people. It is simply not possible to divert land from food to feed. Dairying must avoid competition between beast and man. Your 40 litre per day Holstein who consumes green fodder by the acre is not for us. We must feed our animals with what is left after man has eaten — with rice bran, oil cakes and even straw.

This means that the nature of our dairy industry will always be quite different than yours. Certainly, over time, our dairy farms will increase in size and the productivity of those farms will improve. But we will remain — as I suspect the dairy farms in much of the South will remain — small producers.

In India — and in much of the South — we must combat climatic conditions that are erratic and difficult to predict, much less control. That is one of the reasons why our nations have been poor. If we have a good year in India, then we may export 25,000 tonnes of powder. And, we have had the good fortune to have had several good years in a row. If we have a bad year in India — and our meteorologists say that this year may be a

bad one — then we may have to import 25,000 tonnes. This, as you know, is hardly the stuff of a tough competitor.

And in India — as in much of the South — self-reliance is a misleading term. Self-reliance means only that there is enough for those who can afford something. Today, the purchase of milk is affordable by some 200 million of my countrymen. That is far more — both in absolute and relative terms — than was the case even five years ago. I would hope that those numbers will continue to increase. At the same time, there remain hundreds of millions for whom milk and milk products are luxuries. Our challenge is to increase our productivity so that as incomes rise, more and more Indian men and women can afford milk. As all of you know, the best milk market is the one closest to home.

The question, then, is not *whether* dairying should be encouraged in the South, but *how* developing countries should do dairying.

You, of the North, can view dairying only as providing milk and products to consumers. We, as I've said, have other goals.

But my hope is not that you will leave this room simply accepting the proposition that it is "okay" for the countries of the South to pursue dairying. Rather, I hope you will become active proponents of dairying in the developing countries. Both because it is the right thing to do, and because there is an advantage in doing so.

It is the right thing to do because those who have been blessed with plenty have some obligation — no matter how small — to share those blessings with those less fortunate. It is also the right thing to do because, if dairying is pursued in the right way — through democratic, farmer-owned and controlled cooperatives — then we are building the foundation for true democracy, underpinning democratic structures in the capitals of the world with genuine democratic institutions at the grassroots.

It is also the right thing to do because, as I have indicated from our own experience, dairying contributes to a people's march toward

modernity — toward better hygiene; population control; sound nutrition; equal rights for women, for the socially and economically depressed.

But it is also very much to all our advantages to do so.

We have recently been discussing the possibility of establishing a small dairy in the People's Republic of China, and helping to create a cooperative infrastructure that would supply that dairy. It would, initially, be a small enterprise — perhaps 100,000 litres per day. But even that amount of milk is not presently available. In the early stages it would be necessary for the Chinese to buy our powder and butter oil. I am therefore optimistic that we can put together a programme that will benefit the dairy farmers of both countries.

Now, think for a moment about China, and about sub-Saharan Africa, and about West Asia, about the former Soviet Union and the many other parts of the world where per capita milk production and consumption are well below even India's modest levels.

China's population is about 1.2 billion men, women and children. Even though fluid milk consumption has increased by 31percent during the last five years, it is still less than 8 grams of milk per person per day. And if the Chinese increased that consumption to 10 grams? That's 876,000 tonnes of milk per year.

If our modest proposal for China is accepted and proves a success, then there will no doubt be requests for more dairies, more cooperative structures, and more powder and butter oil to prime the pump. Certainly such demands would be well beyond our means to satisfy. Not to mention similar demands from other parts of the world.

Think, however, if all of us in this room, and in our industry around the world, were to work together. If we were to collaborate to put our knowledge, experience, technology, products and commitment to the service of the fledgling dairy industries of the South. Would it not benefit all of us?

There are those who prefer things as they are. Who are happy to support humanitarian relief to Sudan, or Ethiopia, or to whatever other part of the world is stricken by flood, earthquake or famine. Yet I would argue that such responses, as humane as they are, are often wrong. In fact, they are not truly humane. And they offer little sustainable benefit to either donor or recipient.

Some sage once said, “Give a man a fish, he eats for a day; teach a man to fish, he eats for a lifetime.”

When we respond — out of every good intention — to the latest famine, we sustain only one thing: dependency. We cause economic disruption. The crops, or milk, that local farmers depend on are priced out of the market by donated or concessional commodities. Farmers turn from farming to the dole. The agricultural infrastructure weakens so that it is even less able to weather the next crisis. More donations. More dependency.

Some shortsighted souls — and I believe their “wisdom” is incorporated in the commodity assistance legislation of their respective nations — believe that if you give commodities away, or offer them at a concessional price and on concessional terms, you are “building markets.”

They have forgotten that poor people can’t buy very much.

Among the reasons why the 1.2 billion Chinese don’t drink very much milk, or consume milk products, is that they cannot afford to do so. The same is true of millions of my fellow citizens. And millions more in Africa, in Latin America and Southeast Asia. You can only “build markets” where people can afford what you have to sell.

Unless, of course, you see building markets as building people’s capacities. Each person who leaves a life of poverty increases the global market for milk and for everything else. People leave a life of poverty when they learn a livelihood, when there are markets for what they

produce, structures that give them a fair price and end the exploitation that keeps them poor. Dairy cooperatives in India have been a very important road out of poverty for millions of people. People who have entered the monetary economy, who are becoming consumers. In fact, studies have shown that many of those who were dairy farmers a generation ago have "graduated". Having built assets, their families have moved into business, trade and the professions. Today, I am told, we are "recruiting" a new generation of dairy farmers from amongst the poor, marginal farmers of our country.

In my lifetime I have seen enormous change take place in my own country. I have been invited to see the dairy industries of a number of other countries of the South. The potential in those countries equals or exceeds our own. Yet, for want of political will, or resources, or expertise, that potential lies stillborn.

The question, as I said, is not *whether* dairying should be encouraged in the South. Rather, the question is *how*, and *with whose help*.

Sitting in this room are men and women who represent virtually all there is to know about the business of dairying. You also represent the resources of our industry. Only a small portion of your knowledge, wisdom and experience is needed. But, it is needed. Only a small portion of the resources — the money and commodities we produce — is needed. But they are needed. If we could put our knowledge, our commodities and a small bit of money together, we could help the countries of the South build dairy industries of their own, dairy industries suited to their own genius. We could help millions of people build a solid economic foundation for their lives. We could help strengthen knowledge of nutrition, health and family planning through day-to-day experience. We could help overcome the divisions that today are such painful reminders of man's inability to live in peace. We could contribute to strengthening grassroots democracy, building a foundation for an international democratic polity. And, we could build markets by building people.

In closing, I would like to request each of you to reflect not on *whether* dairying should be encouraged in the South, but on what you can do to help build the dairy industries of the developing world.

Thank you.